THE TESTED DIFFERENCES AND CORRELATIONS IN THE SCHOOL ACHIEVEMENT OF URBAN AND RURAL SEVENTH-GRADE PUPILS

A THESIS

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BY

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D E D I C A T I O N

To My Mother

Mrs. Elizabeth Roper

To My Husband

Johnny B. Atwater

And To My Sons

Delano, Wendell and Henry Atwater

G. R. A.

ACKNOWLEDGEMENTS

The investigator wishes to express sincere gratitude and appreciation to all who contributed to the successful completion of this research. Special thanks are extended to Dr. Laurence E. Boyd and Dr. Lynette Saine for their patience, guidance and direction throughout the duration of this study. The writer also wishes to thank her relatives and friends for their continued interest and the moral support they gave.

G. R. A.

TABLE OF CONTENTS

TABLE OF CONTENTS-Continued

LIST OF TABLES

LIST OF TABLES-Continued

CHAPTER I

INTRODUCTION

Rationale.--The significant difference between effective educational programs in rural areas and urban areas hold two points of view. There are those who believe that rural education is no different from urban education. They base this belief on the fact that all American youth, wherever they live, must develop the fundamental skills and have attitudes, ideas, and knowledge that enable them to be competent citizens.[1] Others accept the education of rural and urban students as two different systems. These persons feel that rural schools should have different objectives from those of urban schools. The chief argument for different objectives is that rural children have different backgrounds, live in a different environment, and as adults will be more likely to live in rural environments.[2]

These points-of-view have encouraged the writer to make a survey of the literature which deals with rural-urban education. Many educators have studied the differences in achievement between rural and urban students. Clem and Hovey made a study of 193 village-school pupils as

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[1] Julian E. Butterworth and Howard A. Dawson, The Modern Rural School (New York: McGraw-Hill Book Company, 1952), p. 117.

[2] T. Lynn Smith, The Sociology of Rural Life (New York: Harper Brothers, 1940), p. 21.

to their performance in the New York State Regent Examination which is a battery of tests comprising English, geography, spelling and history. It was found that the mean of the village group was higher than the rural group in subject. The standard deviations were smaller for the rural schools than for the village schools.[1]

In his study of rural and urban ninth grade pupils in the Summer Hill High School, Cartersville, Georgia, Morgan[2] found that there was no difference in achievement of the rural and urban children studied.

The United States has rapidly become urbanized, while the rural population during each succeeding decade since 1950 has become a smaller per cent of the total population. Between 1950 and 1956, the total population increased not only in numbers, but also in per cent of the total population. The most rapidly growing segment of the population of the United States is, and for some time has been, the rural nonfarm population.[3]

There is a widespread opinion in the United States today that farming, rural life, and rural communities are rapidly becoming extinct and that soon there will be no such thing as rural education or

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1 O. M. Clem and C. W. Hovey, "A Comparative Achievement of Village-School Pupils and Rural-School Pupils," Elementary School Journal, XIV (December, 1943), pp. 257-260.

2 James Stanley Morgan, "A Comparative Study of Rural and Urban Ninth Grade Pupils of Summer Hill High School," unpublished Master's thesis, School of Education, Atlanta University, 1956.

3 Department of Rural Education, Handbook on Rural Education (Washington, D. C.: National Education Association, 1963), p. 15.

rural anything else.

Regardless of the trends in rural population as a per cent of the National total, it is a fact that rural education is still concerned with a sizeable army of people.

But in the final analysis it matters little whether the future man or woman lives on the farm or in the city, for the kind of training which will adapt a man or woman to live in open country will prove useful anywhere; and it will prove useful largely because it has been effective in awakening thinking, establishing standards and refining judgments.

Evolution of the Problem.--The writer became interested in the problem after observing the differences in the rate of achievement as evidenced by test scores and teacher's grades in the Lovie Lyles Elementary School and the Cedar Hill Elementary Schools, respectively.

Contribution to Educational Knowledge.--Although the two institutions included in this study represent separate school systems, the pupils become as one group when they enter the eighth grade. Since this is true, it is the hope of the writer that the present study will have implications of closer cooperation in curriculum planning and evaluation in both the two school systems and the two schools.

The writer also hopes that the study will have implications in the improvement of the educational program of any school to which the data might apply.

Statement of the Problem.--The problem involved in this study was to determine the significant differences and correlations, if any, on

the variables of reading, language, and arithmetic achievement between urban and rural seventh grade pupils.

Scope and Limitation of the Study.--The significant limitations of this study were:

1. The selection of a specific grade in two schools.
2. The basic data were confined to test scores.

Purpose of the Study.--The major purpose of this study was to identify the indices of school achievement for seventh grade urban and rural pupils, together with the determination of whatever statistical differences and correlations there may be in the achievement between the two groups.

More specifically, the purposes of this study were to determine:

1. The measures of central tendency and variability on variables of reading, language and arithmetic achievement for a group of urban and a group of rural seventh grade pupils as measured by the California Achievement Test.
2. The significant difference, if any, on the variable of reading between the groups of urban and rural seventh grade pupils.
3. The significant difference, if any, on variable of language between groups of urban and rural seventh grade pupils.
4. The significant difference, if any, on the variable of arithmetic between two groups of seventh grade pupils, urban and rural.
5. The correlation, if any, on the paired variables of the reading, language and arithmetic for the respective groups of urban and rural seventh grade pupils.
6. The significant difference, if any, in the correlation on the paired variables of reading, language, and arithmetic between the urban and rural seventh grade pupils.
7. The implications, if any, for educational theory and practice as derived from the interpretation of the data.

Definition of Terms.--The significance of the basic terms used in this study are as follows:

1. "Achievement" refers to the level of school achievement of pupils as measured by the California Achievement Test.[1]

2. "Reading" refers to the level of competency in comprehending printed materials as measured by the California Achievement Test.[2]

3. "Language" refers to the ability to manipulate the skills of written language as measured by the California Achievement Test.[3]

4. "Arithmetic" refers to the pupil's ability to understand the meaning of numbers and the fundamental processes involved in the use of them as by the California Achievement Test.[4]

Locale of the Study.--The locale of this study was in Cedartown, Polk County, Georgia, on U. S. Highway 278, approximately 70 miles northwest of Atlanta, Georgia. Cedartown is the county seat of Polk County and its population is approximately 13,000. Less than one-third of its population is Negro.

This study involved two elementary schools: the Lovie Lyles Elementary School in the Polk County School District and the Cedar Hill Elementary School in the city independent school district, both of which are located within Cedartown, Georgia.

The two schools in this study consist of pupils from grades one through seven. The Lovie Lyles School houses the Jack and Jill Nursery-

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[1] Ernest W. Tiegs and Willis W. Clark, California Achievement Test, Complete Battery, Form W. (Los Angeles: California Test Bureau, 1957. p. 5.

[2] Ibid., p. 16.

[3] Ibid., p. 7.

[4] Ibid., pp. 7-8.

Kindergarten which is not considered a part of the school. The Lovie Lyles School has an enrollment of 255 pupils and its staff consists of eight teachers. The Cedar Hill Elementary School consists of 285 pupils and has a staff of 7 teachers. One other teacher teaches in the elementary school as a special reading teacher. The Regal Public Library is housed in the basement of the school.

Both schools contain relatively modern facilities and equipment.

Method of Research and Period of Study.--The Descriptive-Survey Method of research, employing the specific techniques of testing and statistical analysis was used to collect the data.

The study was conducted during the 1962-1963 regular school year at the Lovie Lyles Elementary School and the Cedar Hill Elementary School, Cedartown, Georgia.

Description of Subjects.--The subjects involved in this study constituted all of the seventh-grade pupils from the two schools. The twenty-two pupils from the Lovie Lyles Elementary School had a chronological age range of 10-13 years.

Of the twenty-two pupils, 13 of them were boys. The thirty-three pupils from the Cedar Hill Elementary School had a chronological age range from 12-14 years. Twelve boys were in this group. The chronological age range for the fifty-five peersons tested was 10-14 years.

Description of Instruments.--The instruments used to gather data were official school records and the California Achievement Test, Complete Battery, Form W.

The California Achievement Test, Complete Battery, consists of three tests: Reading, Arithmetic and Language. Each of the three

tests is further divided into two parts. The Reading Test consists of Reading, Vocabulary and Reading Comprehension; the Arithmetic Test consists of Arithmetic Fundamentals and Arithmetic Reasoning; the Language Test consists of Mechanics of English Grammar and Spelling.

These tests are standardized and each item has been selected for its diagnostic value in measuring achievement in the essential elements of reading, arithmetic and language skills. In addition, these batteries are designed not only to measure achievement, but to provide a basis for planning remedial instruction in the areas where individual students may be deficient.

Research Procedures.--Research procedures for this study were as follows:

1. Permission to conduct the study was secured from the proper authorities.
2. Survey of available literature pertinent to the study was reviewed, summarized and presented in the thesis.
3. Urban and rural pupils were identified from the official school records.
4. The California Achievement Test was administered to the seventh grade pupils in the urban and rural schools concerned with this research.
5. The data were assembled in appropriate tables and statistically treated as determined by the purposes of the study.
6. The following statistical measures were computed: mean, median, Sigma, Se mean, Se difference between two means, Fisher's "t" and "r."

Collection of Data.--The steps followed in the collection of data pertinent to this study were as follows: the last week in April and the first three weeks in May of the 1962-1963 term were used in securing permission from the proper authorities to conduct this study.

During the fourth week in May rural and urban seventh grade pupils were identified from official school records and the California Achievement Test was administered. Two days were devoted to the administration of the test; one day for the rural pupils and one day for the urban pupils. During the month of June, the tests were scored and the results were tabulated and statistically treated. During the month of July the collected data was organized under proper captions and presented in appropriate tables and figures which in turn, are interpreted in the thesis copy.

Survey of Related Literature.--For many years, rural education has been identified with schools in the open country and in villages having less than 2500 population. A more appropriate definition regards rural education as the education of people, especially children and youth, residing in an environment essentially rural in character. It is not limited to persons living in open country nor to persons engaged in agriculture as a chief economic activity.

The United States has rapidly become urbanized, while the rural population during each succeeding decade until the period since 1950 has become a smaller per cent of the total population. Between 1950 and 1956 the total rural population increased not only in numbers, but also in per cent of the total population. The most rapidly growing segment of the population of the United States is, and for some time has been, the rural-nonfarm population.

Regardless of the trends in rural population as a per cent of the National total, it is a fact that rural education is still

concerned with a sizeable army of people.[1] Rural schools, then have a definite task to fulfill in fitting their members for the society in which they will someday live.

Interesting studies into the differences of rural and urban students reveal conflicting viewpoints by the authors, regardless of the students' nationality.

In the study of Baldwin, Fillmore and Hadley, it was revealed that rural school youth showed definite intellectual retardation, which increased as they progressed through school. This retardation, they claimed, was more pronounced in one room school students.[2]

In her study, Myra E. Shimberg revealed two major facts regarding practically all comparisons made between rural and urban students: the differences are slight and there is much overlapping; there are very bright and very dull children in both rural and urban students. She related in detailed analysis that many items were so urban in nature that the rural child was placed at a disadvantage.[3]

McNemar in his study of the Revised Stanford-Binet Scale reported the intelligence Quotient Range of Rural students averaged 9.5 points less than urban students in all age groups ranging from six to eighteen

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1 Department of Rural Education, Handbook on Rural Education (Washington, D, C.: National Education Association, 1963).

2 Bird T. Baldwin, Eva A. Fillmore and L. Hadley, Farm Children (New York: Appleton, Century-Croft Company, 1950), p. 297.

3 Myra E. Shimbert, "An Investigation Into the Validity of Norms with Special Reference to Urban and Rural Groups." Arch. Psychology No. 104 (1959), p. 827.

The mean averages were as follows:

204 urban students mean average was 107.9.
103 rural students had a mean average of 95.7.[1]

Clem and Hovey made a study of 193 village-school and 196 school pupils as to their performance in the New York State Regent Examination which is a battery of tests comprising arithmetic, English, geography, spelling and history. It was found that the mean of the village group was higher than the rural group in each subject. The standard deviations were smaller for the rural schools than for the village schools.[2]

Morgan found that there was no difference in achievement of urban and rural ninth grade pupils at the Summer Hill High School, Cartersville, Georgia.[3]

According to Brazziel and Terrell,[4] the great challenge to the schools in America which teach the poor, and thus the culturally disadvantaged groups, is that of overcoming the operation of age-grade decrements in intelligence and achievement in their pupil population and thereby of developing children and youth who can realize the American dream of equalization of economic opportunity regardless of the circumstances of birth. As a rule, the child from the disadvantaged home will

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1 Q. McNemar, The Revision of theStanford-Binet Scale (Boston: Houghton-Mifflin Company, 1942), p. 37.

2 Clem and Hovey, op. cit., pp. 269-272.

3 Morgan, op. cit.

4 William F. Brazziel and Mary Terrell, "An Experiment in the Development of Readiness in a Culturally Disadvantaged Group of First Grade Children." Journal of Negro Education, (Winter, 1962) XXXI, pp. 4-7.

come to the school slightly less prepared in both literacy and social learnings than will his more fortunate middle or upper income counterpart.

As a result, he carries from the school a disproportionally smaller gain in learning.

Carrell[1] made a study of the achievement in rural and village schools in Lancaster County, Nebraska. He found the marks of the rural and village pupils in the eighth grades in 1939 on the Progressive Achievement Test. The study revealed the fact that 81 per cent of the rural pupils and 79 per cent of the urban pupils were average for grade placement.

Kyte[2] in 1931, summarized the findings of state surveys on pupil achievement in rural and urban schools. He called attention to the findings of several studies in which intelligence as well as achievement quotient in the three R's were as good in rural as in urban schools.

Sorokin, Zimmerman and Golpin according to Smith[3] contend that the tests are biased in favor of urban groups.

Many educators feel that rural children are less capable of school achievement than are urban children. It seems, generally, that rural

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1 Jesse J. Carrell, "Achievement in Rural and Village Schools of Lancaster County, Nebraska," (unpublished Master's thesis, School of Education, Atlanta University, 1940).

2 George C. Kyte, "The Status of Rural Education," The Thirteenth Yearbook, National Society for the Study of Education, Part I (Public School Publishing Company, 1931), pp. 25-34.

3 Smith, op. cit., pp. 121-22.

children score lower than urban children on standardized tests.

Strang makes the following observation:

> Many of the tests used in rural schools do not test the most important objectives of rural education. Almost all the tests have been standardized on much larger numbers of urban than rural children and their norms are consequently not entirely appropriate for rural children. Moreover, standardized tests with their directions for careful timing, their scoring keys, and their tables of norms, seem rather technical to many teachers who have not experience and training in testing. The time they take to administer and score and their cost likewise loom large as limitations in the rural school.[1]

Clarence C. Martens reports that:

> Many studies of comparative achievement in various academic areas of pupils from one room rural school and from graded town schools have been made. The results of the studies have shown a general superiority in academic achievement of town pupils over rural pupils. He further states that one of the great weaknesses of many of these studies has been the fact that no control was used to equate the pupils' ability.[2]

Martin and Stendler argue:

> American schools at the present time do not take into account individual growth rates. They still tend to compare an individual with his group average rather than his own growth pattern. They also compare children's school achievement norms. But growth and achievement are not uniform for all individuals nor do they tend to proceed in a straight line.[3]

Summary of Related Literature.--From the review of related literature, there seems to be consensus among many authorities, that there is

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[1] Ruth Strang and Lathan Hatcher, Child Development and Guidance (New York: The Macmillan Company, 1943), p. 43.

[2] Clarence E. Martens, "Eighth Grade Pupils in One-Room Schools and Graded Town Schools," Elementary School Journal (January, 1954), p. 24.

[3] William H. Martin and Celia Stendler, Child Development (New York: McGraw Hill Book Company, 1950), p. 53.

a difference in achievement of rural children and urban children.

Nevertheless, the related literature also reveals rather constant doubt on the part of the investigator as to the validity of the instrument used for measuring these differences; that is, it is generally thought that rural children score lower on those various tests not because of inferior abilities but because the tests usually serve as an interpretation of urban environment.

In fact, Smith referred to a study done by Myra E. Shimberg that points out this new view. Her study posited the hypothesis that the failure of the rural children to score as high on intelligence test as urban children is due not to any innate intellectual differences between the two groups, but the tools used in measuring them.

From the literature, the writer secured significant points of view and listed them along with the various authors. These interesting and pertinent observations have been summarized and reported in the succeeding paragraphs.

1. Baldwin, Fillmore and Hadley - Rural school children showed definite intellectual retardation.

2. Brazziel and Terrell - Children from culturally disadvantaged homes come to school slightly less prepared in both literary and social learning than the middle or upper class children and as a result, carry from the school a disproportionately smaller gain in learning.

3. Carrell - His study revealed that rural children are as average in grade placement as are urban children.

4. Clark - Achievement is actual performance; it is what one does regardless of his capabilities.

5. Kyte - Achievement quotient in the three r's was as good in rural as in urban schools.

6. Martens - The results of many of the studies of comparative

achievements of rural children have shown a general superiority in academic achievement of town pupils over rural pupils. One of the great weaknesses of many studies of rural children has been the fact that no control was used to evaluate the pupils ability.

7. Martin and Stendler - "American schools do not take into account individual growth rates. They still tend to compare an individual with his group average rather than his own growth pattern. They also compare children's school achievement norms. But growth and achievement are not uniform for all individuals nor do they tend to proceed in a straight line!"

8. Morgan - There was no difference in achievement of urban and rural ninth-grade pupils in Cartersville, Georgia.

9. McNemar - Rural children averaged less in achievement than urban children in all age groups ranging from six to eighteen.

10. Shimberg - Differences between rural and urban children are slight and there is much overlapping.

11. Sorokin, Zimmerman and Golpin - Tests are baised in favor of urban groups.

12. Strang - Many of the tests used in rural schools do not test the most important objectives of rural education. Their norms are not entirely appropriate for rural children.

The review of related literature led to the following conclusions:

1. There is a rather constant difference in school achievement between rural and urban pupils in favor of urban pupils.

2. The related literature also revealed that the instruments used to measure these differences are to some extent biased in favor of urban pupils.

3. The failure of rural children to score as high on standardized tests as urban children is not due to any innate intellectual differences between the two groups but to the tools, used in measuring them.

CHAPTER II

ORGANIZATION AND TREATMENT OF DATA

Prefatory Statement.--The data presented in this chapter were analyzed and interpreted in an effort to provide a basis for the formulation of conclusions pertaining to the purposes of this study which were listed in Chapter I. These data are presented in such a manner as to answer questions relative to the hypothesis as posed in the statement of the problem. The main purpose of the study was to determine whether there was any difference between the school achievement of urban and rural children as enrolled in the Lovie Lyles Elementary School and the Cedar Hill Elementary School, Cedartown, Georgia. The writer restricted the subjects of this investigation to the two groups as named.

The present section of the thesis will present the data on the testing program concerned with the achievement scores of the two groups of pupils, (a) urban group and (b) rural group for the seventh-grades of the Cedar Hill Elementary School and the Lovie Lyles Elementary School. Appropriate tables illustrative of the data as indicated below will be found throughout the section.

1. There are ten tables which will present frequency distribution of the fifty-five pupils enrolled in the seventh-grades of the two schools. On each of the "variables" in the tests as used in this study, the tables will give the primary statistics

in regard to measures of central tendency and variability.

2. There are ten tables which will present significant differences between the two groups of seventh-grade pupils on the "variables" of the tests as used in this study.
3. There are two tables which will present the basic data on the correlations for the paired variables of achievement for the respective groups of seventh-grade pupils.
4. There is one table which will present the significant difference of the correlations between the seventh-grade groups.
5. There is one summary table which will present a summary of all the basic data included in the other tables.

The criteria of reliability of the statistics of the various paired variables of the data were: Fisher's "t" test of significant difference at or beyond the one (.01) per cent level of confidence,[1] the standard error of the mean, together with Fisher's "t" test of significant correlation;[2] and the significance of the difference between the two "p's."[3]

Results on the California Achievement Test Junior High Level Complete Battery-Form W

The data on the Reading Vocabulary component of the California

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[1] J. P. Gilford, Fundamental Statistics in Psychology and Education (New York: McGraw-Hill Bompany, Inc., 1956), p. 167.

[2] Ibid., pp. 178-179.

[3] Ibid., pp. 180-181.

Achievement Test as revealed by the raw scores obtained by the twenty-two rural seventh-grade pupils and the thirty-three urban seventh-grade pupils in the Lovie Lyles Elementary School and the Cedar Hill Elementary School, Cedartown, Georgia, 1962-1963, are presented in Tables 1 and 2, pages 18 and 19, respectively; and are analyzed in the separate paragraphs below.

Urban Group - For the 33 seventh-grade pupils the scores (grade placement) ranged from a low of 2.4 to a high of 10.0 with a mean of 20.03, a median of 19.8, a standard deviation of 7.80 and a standard error of the mean of 1.4: nine or 27.27 per cent scored above the mean, sixteen or 48.48 per cent scored below the mean, and eight or 24.24 per cent scored within the mean class-interval. The mean score of 20.03 indicated a grade-placement index of 4.7, which was 2.8 points below the norm of expectancy in achievement.

Rural Group - For the 22 seventh-grade pupils (grade-placement) ranged from a low of 4.1 to a high of 7.7, with a mean of 22.45, a median of 23.5, a standard deviation of 10.60 and a standard error of the mean of 2.3: nine or 40.8 per cent scored above the mean, eight or 36.3 per cent scored below the mean and five or 22.45 per cent scored within the mean class interval. The mean score of 22.45 indicated a grade-placement index of 4.8, which was 2.7 years below the norm of expectancy in achievement.

The "t" ratio of Comparative Data.--Table 2, page 19 shows the comparative measures for the two groups were as follows: the mean score for the Rural group was 22.45 and for the Urban group was 20.03,

TABLE 1

DISTRIBUTION OF RAW SCORES ON THE READING VOCABULARY COMPONENT OF THE CALIFORNIA ACHIEVEMENT TEST AS OBTAINED BY TWENTY-TWO RURAL SEVENTH-GRADE PUPILS AND THIRTY-THREE URBAN SEVENTH-GRADE PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL AND THE CEDAR HILL ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA, 1962-1963

Scores	Rural		Urban	
	Number	Per Cent	Number	Per Cent
40-44				
35-39	3	13.6	2	6.06
30-34	1	4.5	1	3.03
25-29	5	22.7	6	18.18
20-24	5	22.7	8	24.24
15-19	3	13.6	8	24.24
10-14	4	18.2	5	15.15
5-9	1	4.5	3	9.09
Total	22	100	33	100

Mean - 22.45 Sigma - 10.60 Mean - 20.03 Sigma - 7.80

Median - 23.5 S.E. - 2.3 Median - 19.8 S.E. - 1.4

TABLE 2

SIGNIFICANT DIFFERENCES BETWEEN SCORES ON READING VOCABULARY COMPONENT OF THE CALIFORNIA ACHIEVEMENT TEST AS OBTAINED BY TWENTY-TWO RURAL SEVENTH-GRADE PUPILS AND THIRTY-THREE URBAN SEVENTH-GRADE PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL AND THE CEDAR HILL ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA, 1962-1963

Groups	Mean	Median	Sigma	S.E.	Difference of $M_1 - M_2$	S.E. of Difference $M_1 - M_2$	"t"
Rural	22.45	23.5	10.60	2.3			
					2.42	2.6	.9
Urban	20.03	19.8	7.80	1.4			

with a difference of 2.42 in favor of the Rural group; the median score for the Rural group was 23.5 and for the Urban group it was 19.8, with a difference of 3.7 in favor of the Rural group; the standard deviation for the Rural group was 10.60 and for the Urban group it was 7.80, with a difference of 2.80 in favor of the Rural group; the standard error of the mean for the Rural group was 2.3 and for the Urban group it was 1.4, with a difference of .9 in favor of the Rural group. The standard errof the difference between the two means was 2.6.

The "t" for these data were .9 which was not significant for it was less than 2.58 at the .01 per cent level of confidence and at 54 degrees of freedom. Therefore, the difference on the Reading Vocabulary component of the California Achievement Test was not statistically significant for these two groups of subjects.

Interpretation.--A summary of the data analyzed and compared above would appear to indicate that the grade-placement of 6.0 and 5.6 for the Rural group and Urban group, respectively, was an indication that the former was educationally retarded and the latter was educationally retarded as measured by the California Achievement Test.

Further, the question as to what extent the factors of socio-economic status and "culture-fair" tests could or would in an "equalizing" and/or "plus" situation--have significantly altered the performance of these seventh-grade pupils would appear to be moot.

Lastly, and more significantly, there is the question to what extent did the situation of the urban group of seventh-graders provide a motivation more conducive to optimum growth and development than did the environment of the rural seventh-graders.

Results on the California Achievement Test
Junior High Level Complete Battery-Form W

The data on the Reading Comprehension component of the California Achievement Test as revealed by the raw scores obtained by the twenty-two Rural Seventh-grade pupils of the Lovie Lyles Elementary School and the thirty-three Urban Seventh-grade pupils of the Cedar Hill Elementary School, Cedartown, Georgia, 1962-1963, are presented in Tables 3 and 4, pages 22 and 23, respectively; and are analyzed in the separate paragraphs below.

Rural Group - For the 22 seventh-grade pupils the scores (grade-placement) ranged from a low of 44 to a high of 9.1, with a mean of 27.81, a median of 24.92, a standard deviation of 11.10, and a standard error of the mean of 2.4: six or 27.2 per cent scored above the mean, nine or 40.9 per cent scored below the mean, and seven or 31.8 per cent scored within the mean class-interval. The mean score of 27.81 indicated a grade-placement index of 6.6, which was .9 points below the norm of expectancy in achievement.

Urban Group - For the 33 seventh-grade pupils the scores (grade-placement) ranged from a low of 3.1 to a high of 10.2, with a mean of 31.45, a median of 32.0, a standard deviation of 8.95, and a standard error of the mean of 1.6: twenty or 60.60 per cent scored above the mean, eight or 24.24 per cent scored below the mean, and five or 15.15 per cent scored within the mean class interval. The mean score of 31.45 indicated a grade-placement index of 7.2, which was .3 years below the norm of expectancy in achievement.

The "t" ratio of Comparative Data.--Table 4, page 23 shows the

TABLE 3

DISTRIBUTION OF RAW SCORES ON THE READING COMPREHENSION COMPONENT OF THE CALIFORNIA ACHIEVEMENT TEST AS OBTAINED BY TWENTY-TWO RURAL SEVENTH GRADE PUPILS AND THIRTY-THREE URBAN SEVENTH GRADE PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL AND THE CEDAR HILL ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA, 1962-1963

	Rural		Urban	
Scores	Number	Per Cent	Number	Per Cent
54 - 58	2	9.1		
49 - 53			1	3.03
44 - 48	1	4.5	3	9.09
39 - 43			2	6.06
34 - 38	1	4.5	9	27.27
29 - 33	2	9.1	5	15.15
24 - 28	7	31.8	5	15.15
19 - 23	6	27.3	6	18.18
14 - 18	3	13.6	2	6.06
Total	22	100	33	100
	Mean 27.81 Sigma 11.10		Mean 31.45 Sigma 8.95	
	Median 24.92 S.E. 2.4		Median 32.0 S.E. 1.6	

TABLE 4

SIGNIFICANT DIFFERENCES BETWEEN SCORES ON READING COMPREHENSION COMPONENT OF THE CALIFORNIA ACHIEVEMENT TEST AS OBTAINED BY TWENTY-TWO RURAL SEVENTH GRADE PUPILS AND THIRTY-THREE URBAN SEVENTH GRADE PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL AND THE CEDAR HILL ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA, 1962-1963

Group	Mean	Median	Sigma	S.E.	Diff. of $M_1 - M_2$	S.E. of Diff. of $M_1 - M_2$	"t"
Rural	27.81	24.9	11.10	2.4			
					3.64	2.8	1.2
Urban	31.45	32.0	8.95	1.6			

comparative measures for the two groups was as follows: the mean score for the Rural group was 27.81 and for the Urban group was 3.45 with a difference of 3.64 in favor of the Urban group; the median score for the Rural group was 24.9 and for the Urban group was 32.0, with a difference of 7.1 in favor of the Urban group; the standard deviation for the Rural group was 11.10 and for the Urban group was 8.95, with a difference of 2.15 in favor of the Rural group; the standard error of the mean for the Rural group was 2.4 and for the Urban group was 1.6, with a difference of .8 in favor of the Rural group. The standard error of the difference between the two means was 2.8.

The "t" for these data were 1.2, which was not significant for it was less than 2.58 at the .01 per cent level of confidence and at 54 degrees of freedom. Therefore, the difference on the Reading Comprehension component of the California Achievement Test was not statistically significant for these two groups of subjects.

Interpretation.--A summary of the data analyzed and compared above would appear to indicate that the grade-placement of 6.0 and 7.0 for the Rural group and Urban group, respectively, was an indication that the former was educationally retarded or educationally accelerated as measured by the California Achievement Test.

Further, the question as to what extent the factors of socio-economic status and "culture-fair" tests could or would in an "equalizing and/or "plus" situation -- have significantly altered the performance of these seventh-grade pupils would appear to be moot.

Lastly, and more significant, there is the question to what extent

did the situation of the Urban group of seventh-graders provide a motivation more conducive to optimum growth and development than did the environment of the Rural seventh-graders.

Results on the California Achievement Test
Junior High Level Complete Battery-Form W

The data on the Total Reading component of the California Achievement Test are revealed by the raw scores obtained by the twenty-two Rural seventh-grade pupils of the Lovie Lyles Elementary School and the thirty-three Urban seventh-grade pupils of the Cedar Hill Elementary School, Cedartown, Georgia, 1962-1963, are presented in Tables 5 and 6, pages 26 and 28, respectively; and are analyzed in the separate paragraphs below.

Rural Group - For the 22 seventh-grade pupils the scores (grade-placement) ranged from a low of 4.4 to a high of 8.4, with a mean of 49.45, a median of 46.5, a standard deviation of 16.00, and a standard error of the mean of 3.5: eight or 36.3 per cent scored above the mean, eleven or 50.0 per cent scored below the mean, and three or 13.6 per cent scored within the mean class-interval. The mean score of 49.45 indicated a grade-placement index of 5.3, which was 2.2 points below the norm of expectancy in achievement.

Urban Group - For the 33 seventh-grade pupils the scores (grade-placement) ranged from a low of 2.4 to a high of 10.1, with a mean of 50.81, a median of 49.6, a standard deviation of 15.30, and a standard error of the mean of 2.9: fifteen or 45.45 per cent scored above the mean, fourteen or 42.42 per cent scored below the mean, and four or

TABLE 5

DISTRIBUTION OF RAW SCORES ON THE TOTAL READING COMPONENT OF THE CALIFORNIA ACHIEVEMENT TEST AS OBTAINED BY TWENTY-TWO RURAL SEVENTH GRADE PUPILS AND THIRTY-THREE URBAN SEVENTH GRADE PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL AND THE CEDAR HILL ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA, 1962-1963

Scores	Rural		Urban	
	Number	Per Cent	Number	Per Cent
87 - 91	2	9.1		
82 - 86				
77 - 81			3	9.09
72 - 76	1	4.5	1	3.03
67 - 71			2	6.06
62 - 66	3	13.6	4	12.12
57 - 61			2	6.06
52 - 56	2	9.1	3	9.09
47 - 51	3	13.6	4	12.12

TABLE 5--Continued

Scores	Rural		Urban	
	Number	Per Cent	Number	Per Cent
42 - 46	2	9.1	4	12.12
37 - 41	4	18.2	3	9.09
32 - 36	2	9.1	2	6.06
27 - 31	1	4.5	3	9.09
22 - 26	2	9.1	2	6.06
Total	22	100	33	100
Mean	49.45		50.81	
Median	46.5		49.6	
Sigma	16.00		15.30	
S.E.	3.5		2.9	

TABLE 6

SIGNIFICANT DIFFERENCES BETWEEN SCORES ON TOTAL READING COMPONENT OF THE CALIFORNIA ACHIEVEMENT TEST AS OBTAINED BY TWENTY-TWO RURAL SEVENTH GRADE PUPILS AND THIRTY-THREE URBAN SEVENTH GRADE PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL AND THE CEDAR HILL ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA, 1962-1963

Groups	Mean	Median	Sigma	S.E.	Diff. of $M_1 - M_2$	S.E. of Diff. of $M_1 - M_2$	"t"
Rural	49.45	46.5	16.00	3.5			
					1.36	1.4	.9
Urban	50.81	49.6	15.30	2.9			

12.12 per cent scored within the mean class interval. The mean score of 50.81 indicated a grade-placement index of 5.3, which was 2.2 years below the norm of expectancy in achievement.

The "t" ratio of Comparative Data.--Table 6, page 28, shows the comparative measures for the two groups were as follows: the mean score for the Rural group was 49.45 and for the Urban group was 50.81, with a difference of 1.36 in favor of the Urban group; the median group was 49.6, with a difference of 3.1 in favor of the Urban group; the standard deviation for the Rural group was 16.00 and for the Urban group was 15.30, with a difference of .70 in favor of the Rural group; the standard error of the mean for the Rural group was 3.5 and for the Urban group was 2.9, with a difference of .6 in favor of the Rural group. The standard error of the difference between the two means was 1.4.

The "t" for these data was .9 which was not significant for it was less than 2.58 at the .01 per cent level of confidence and at 54 degrees of freedom. Therefore, the difference on the Total Reading component of the California Achievement Test was not statistically significant for these two groups of subjects.

Interpretation.--A summary of the data analyzed and compared above would appear to indicate that the grade placement of 6.0 and 6.3 for the Rural group and Urban group, respectively, was an indication that the former was educationally retarded and the latter was educationally retarded as measured by the California Achievement Test.

Further, the question as to what extent the factors of socio-economic

status and "culture-fair" tests could or would in an "equalizing" and/or "plus" situation--have significantly altered the performance of these seventh-grade pupils would appear to be moot.

Lastly, and more significant, there is the question to what extent did the situation of the Urban group of seventh-graders provide a motivation more conducive to optimum growth and development than did the environment of the Rural seventh-graders.

Results on the California Achievement Test Junior High Level Complete Battery-Form W

The data on the Arithmetic Fundamentals component of the California Achievement Test as revealed by the raw scores obtained by the twenty-two Rural seventh-grade pupils of the Lovie Lyles Elementary School and the thirty-three Urban seventh-grade pupils of the Cedar Hill Elementary School, Cedartown, Georgia, 1962-1963, are presented in Tables 7 and 8, pages 31 and 33, respectively; and are analyzed in the separate paragraphs below.

Rural Group - For the 22 seventh-grade pupils the scores (grade placement) ranged from a low of 4.7 to a high of 7.5, with a mean of 26.50, a median of 25.25, a standard deviation of 10.05 and a standard error of the mean of 3.0: ten or 45.3 per cent scored above the mean, eight or 36.3 per cent scored below the mean, and four or 18.2 per cent scored within the mean class-interval. The mean score of 26.50 indicated a grade-placement index of 5.4, which was 2.1 points below the norm of expectancy in achievement.

Urban Group - For the 33 seventh-grade pupils the scores (grade placement) ranged from a low of 1.0 to a high of 11.0, with a mean of

TABLE 7

DISTRIBUTION OF THE RAW SCORES ON ARITHMETIC FUNDAMENTALS COMPONENT OF THE CALIFORNIA ACHIEVEMENT TEST AS OBTAINED BY TWENTY-TWO RURAL SEVENTH GRADE PUPILS AND THIRTY-THREE URBAN SEVENTH GRADE PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL AND THE CEDAR HILL ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA, 1962-1963

	Rural		Urban	
Scores	Number	Per Cent	Number	Per Cent
67 - 71			1	3.03
62 - 66				
57 - 61			2	6.06
52 - 56			1	3.03
47 - 51	1	4.5	2	6.06
42 - 46	1	4.5	4	12.12
37 - 41	2	9.1	3	9.09
32 - 46	3	13.6	4	12.12
27 - 31	3	13.6	6	18.18

TABLE 7--Continued

	Rural		Urban	
Scores	Number	Per Cent	Number	Per Cent
22 - 26	4	18.2	4	12.12
17 - 21	3	13.6	2	6.06
12 - 16	5	22.7	2	6.06
7 - 11				
2 - 6			2	6.06
Total	22	100	33	100

Mean	26.50	Mean	33.69
Median	25.25	Median	32.12
Sigma	10.05	Sigma	12.90
S.E.	3.0	S.E.	2.3

TABLE 8

SIGNIFICANT DIFFERENCES BETWEEN SCORES ON ARITHMETIC FUNDAMENTALS COMPONENT OF THE CALIFORNIA ACHIEVEMENT TEST AS OBTAINED BY TWENTY-TWO RURAL SEVENTH GRADE PUPILS AND THIRTY-THREE URBAN SEVENTH GRADE PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL AND THE CEDAR HILL ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA 1962-1963

Groups	Mean	Median	Sigma	S.E.	Diff. of $M_1 - M_2$	S.E. of Diff. of $M_1 - M_2$	"t"
Rural	26.50	25.25	10.05	3.0			
					7.19	3.7	1.9
Urban	33.69	32.12	12.90	2.3			

33.69, a median of 32.12, a standard deviation of 12.90, and a standard error of the mean of 2.3: thirteen or 29.36 per cent scored above the mean, sixteen or 48.48 per cent scored below the mean, and four or 12.12 per cent scored within the mean class interval. The mean score of 33.69 indicated a grade-placement index of 5.9, which was 1.7 years below the norm of expectancy in achievement.

The "t" ratio of Comparative Date.--Table 8, page 33 shows the comparative measures for the two groups were as follows: the mean score for the Rural group was 26.50 and for the Urban group was 33.69, with a difference of 7.19 in favor of the Urban group; the median score for the Rural group was 25.25 and for the Urban group was 32.12, with a difference of 6.87 in favor of the Urban group; the standarddeviation for the Rural group was 10.05 and for the Urban group was 12.90, with a difference of 2.85 in favor of the Urban group; the standard error of the mean for the Rural group was 3.0 and for the Urban group was 2.3, with a difference of .7 in favor of the Rural group. The standard error of the difference between the two means was 3.7.

The "t" for these data was 1.9, which was not significant for it was less than 2.58 at the .01 per cent level of confidence and at 54 degrees of freedom. Therefore, the difference on the Arithmetic Fundamentals component of the California Achievement Test was not statistically significant for these two groups of subjects.

Interpretation.--A summary of the data analyzed and compared above would appear to indicate that the grade placement of 5.6 and 5.9, for the Rural group and Urban groups, respectively, was an indication

that the former was educationally retarded and the latter was educationally retarded as measured by the California Achievement Test.

Further, the question as to what extent the factors of socio-economic status and "culture-fair" tests could or would in an "equalizing" and/or "plus" situation--have significantly altered the performance of these seventh-grade pupils would appear to be moot.

Lastly, and more significant, there is the question to what extent did the situation of the Urban group of seventh-graders provide a motivation more conducive to optimum growth and development than did the environment of the Rural seventh-graders.

Results on the California Achievement Test Junior High Level Complete Battery-Form W

The data on the Arithmetic Reasoning component of the California Achievement Test as revealed by the raw scores obtained by the twenty-two Rural seventh-grade pupils of the Lovie Lyles Elementary School and the thirty-three Urban seventh-grade pupils of the Cedar Hill Elementary School, Cedartown, Georgia, 1962-1963, are presented in Tables 9 and 10, pages 36 and 37, respectively; and are analyzed in the separate paragraphs below.

Rural Group - For the 22 seventh-grade pupils the scores (grade placement) ranged from a low of 4.0 to a high of 8.5 with a mean of 15.31, a median of 15.16, a standard deviation of 6.05 and a standard error of the mean of 1.3: five or 22.6 per cent scored above the mean, eight or 36.3 per cent scored below the mean, and nine or 40.9 per cent scored within the mean class-interval. The mean score of 15.31 indicated a grade-placement index of 6.2, which was 1.3 points below

TABLE 9

DISTRIBUTION OF RAW SCORES ON THE ARITHMETIC REASONING COMPONENT OF THE CALIFORNIA ACHIEVEMENT TEST AS OBTAINED BY TWENTY-TWO RURAL SEVENTH GRADE PUPILS AND THIRTY-THREE URBAN SEVENTH GRADE PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL AND THE CEDAR HILL ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA, 1962-1963

	Rural		Urban	
Scores	Number	Per Cent	Number	Per Cent
29 - 33	1	4.5	3	9.09
24 - 28	1	4.5	6	18.18
19 - 23	3	13.6	6	18.18
14 - 18	9	40.9	6	18.18
9 - 13	5	22.7	4	12.12
4 - 8	3	13.6	8	24.24
Total	22	100	33	100
	Mean 15.31	Sigma 6.05	Mean 17.06	Sigma 8.20
	Median 15.16	S.E. 1.3	Median 17.25	S.E. 1.4

TABLE 10

SIGNIFICANT DIFFERENCES BETWEEN SCORES ON ARITHMETIC REASONING COMPONENT OF THE CALIFORNIA ACHIEVEMENT TEST AS OBTAINED BY TWENTY-TWO RURAL SEVENTH GRADE PUPILS AND THIRTY-THREE URBAN SEVENTH GRADE PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL AND THE CEDAR HILL ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA, 1962-1963

Groups	Mean	Median	Sigma	S.E.	Diff. of $M_1 - M_2$	S.E. of Diff. of $M_1 - M_2$	"t"
Rural	15.31	15.16	6.05	1.3			
					1.75	1.9	.9
Urban	17.06	17.25	8.20	1.4			

the norm of expectancy in achievement.

Urban Group - For the 33 seventh-grade pupils the scores (grade placement) ranged from a low of 4.0 to a high of 8.6, with a mean of 17.06, a median of 17.25, a standard deviation of 8.20, and a standard error of the mean of 1.4: fifteen or 45.45 per cent scored above the mean, twelve or 36.36 per cent scored below the mean, and six or 18.18 per cent scored within the mean class interval. The mean score of 17.06 indicated a grade-placement index of 6.4, which was 1.1 years below the norm of expectancy in achievement.

The "t" ratio of Comparative Data.--Table 10, page 37, shows the comparative measures for the two groups were as follows: the mean score for the Rural group was 15.31 and for the Urban group was 17.06, with a difference of 1.75 in favor of the Urban group; the median score for the Rural group was 15.16 and for the Urban group was 17.25, with a difference of 2.09 in favor of the Urban group; the standard deviation for the Rural group was 6.05 and for the Urban group was 8.20, with a difference of 2.15 in favor of the Urban group; the standard error of the mean for the Rural group was 1.3 and for the Urban group was 1.4, with a differenee of .1 in favor of the Urban group. The standard error of the difference between the two means was 1.9.

The "t" for these data was .9, which was not significant for it was less than 2.58 at the .01 per cent level of confidence and at 54 degrees of freedom. Therefore, the difference on the Arithmetic Reasoning component of the California Achievement Test was not statistically significant for these two groups of subjects.

Interpretation.--A summary of the data analyaed and compared

above would appear to indicate that the grade placement of 5.6 and 5.6, for the Rural group and Urban group, respectively, was an indication that the former was educationally retarded and the latter was educationally retarded as measured by the California Achievement Test.

Further, the question as to what extent the factors of socio-economic status and "culture-fair" tests could or would in an "equalizing" and/or "plus" situation--have significantly altered the performance of these seventh-grade pupils would appear to be moot.

Lastly, and more significant, there is the question to what extent did the situation of the Urban group of seventh-graders provide a motivation more conducive to optimum growth and development than did the environment of the Rural seventh-graders.

Results on the California Achievement Test
Junior High Level Complete Battery-Form W

The data on the Total Arithmetic component of the California Achievement Test as revealed by the raw scores obtained by the twenty-two rural seventh-grade pupils of the Lovie Lyles Elementary School and the thirty-three Urban seventh-grade pupils of Cedar Hill Elementary School, Cedartown, Georgia, 1962-1963, are presented in Tables 11 and 12, pages 40 and 42, respectively; and are analyzed in the separate paragraphs below.

Rural Group - For the 22 seventh-grade pupils the scores (grade placement) ranged from a low of 4.4 to a high of 8.0, with a mean of 41.22, a median of 40.3, a standard deviation of 14.55, and a standard error of the mean of 3.2: ten or 45.3 per cent scored above the mean,

TABLE 11

DISTRIBUTION OF RAW SCORES ON THE TOTAL ARITHMETIC COMPONENT OF THE CALIFORNIA ACHIEVEMENT TEST AS OBTAINED BY TWENTY-TWO RURAL SEVENTH GRADE PUPILS AND THIRTY-THREE URBAN SEVENTH GRADE PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL AND THE CEDAR HILL ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA, 1962-1963

	Rural		Urban	
Scores	Number	Per Cent	Number	Per Cent
97 - 101			1	3.03
92 - 96				
87 - 91				
82 - 86			1	3.03
77 - 81			3	9.09
72 - 76	2	9.1	2	6.06
67 - 71			1	3.03
62 - 66	1	4.5	3	9.09
57 - 61			3	9.09

TABLE 11--Continued

Scores	Rural		Urban	
	Number	Per Cent	Number	Per Cent
52 - 56	1	4.5	1	3.03
47 - 51	1	4.5	3	9.09
42 - 46	5	22.7	3	9.09
37 - 41	4	18.2	5	15.15
32 - 36	1	4.5	2	6.06
27 - 31	4	18.2	1	3.03
22 - 26	2	9.1	1	3.03
17 - 21	1	4.5	1	3.03
12 - 16			1	3.03
7 - 11			1	3.03
Total	22	100	33	100
	Mean 41.22 Median 40.3 Sigma 14.55 S.E. 3.2		Mean 51.42 Median 49.0 Sigma 21.05 S.E. 3.7	

TABLE 12

SIGNIFICANT DIFFERENCES BETWEEN SCORES ON THE TOTAL ARITHMETIC COMPONENT OF THE CALIFORNIA ACHIEVEMENT TEST AS OBTAINED BY TWENTY-TWO RURAL SEVENTH GRADE PUPILS AND THIRTY-THREE URBAN SEVENTH GRADE PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL AND THE CEDAR HILL ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA, 1962-1963

Groups	Mean	Median	Sigma	S.E.	Diff. of $M_1 - M_2$	S.E. of Diff. of $M_1 - M_2$	"t"
Rural	41.22	40.3	14.55	3.2			
					10.20	4.8	2.1
Urban	51.42	49.0	21.05	3.7			

eight or 36.3 per cent scored below the mean, and four or 18.2 per cent scored within the mean class-interval. The mean score of 41.22 indicated a grade-placement index of 5.7, which was 1.8 points below the norm of expectancy in achievement.

Urban Group - For the 33 seventh-grade pupils the scores (grade placement) ranged from a low of 2.8 to a high of 9.8, with a mean of 51.42, a median of 49.0, a standard deviation of 21.05, and a standard error of the mean of 3.7: fifteen or 54.54 per cent scored above the mean, fifteen or 36.36 per cent scored below the mean and three or 9.09 per cent scored within the mean class interval. The mean score of 51.42 indicated a grade-placement index of 6.1, which was 1.4 years below the norm of expectancy in achievement.

The "t" ratio of Comparative Data.--Table 12, page 42, shows the measures for the two groups were as follows: the mean score for the Rural group was 41.22 and for the Urban group was 51.42, with a difference of 10.20 in favor of the Urban group; the median score for the Rural group was 40.3 and for the Urban group was 49.0, with a difference of 8.7 in favor of the Urban group; the standard deviation for the Rural group was 14.55 and for the Urban group was 21.05, with a difference of 6.50 in favor of the Urban group; the standard error of the mean for the Rural group was 3.2 and for the Urban group was 3.7, with a difference of .5 in favor of the Urban group. The standard error of the difference between the two means was 4.8.

The "t" for these data was 2.1 which was not significant for it was less than 2.58 at the .01 per cent level of confidence and at 54 degrees of freedom. Therefore, the difference on the Total Arithmetic

component of the California Achievement Test was not statistically significant for these two groups of subjects.

Interpretation.--A summary of the data analyzed and compared above would appear to indicate that the grade placement of 5.6 and 5.7 for the Rural group and Urban group, respectively, was an indication that the former was educationally retarded and the latter was educationally retarded as measured by the California Achievement Test.

Further, the question as to what extent the factors of socio-economic status and "culture-fair" tests could or would in an "equalizing" and/or "plus" situation--have significantly altered the performance of these seventh-grade pupils would appear to be moot.

Lastly, and more significant, there is the question to what extent did the situation of the urban group of seventh-graders provide a motivation more conducive to optimum growth and development than did the environment of the Rural seventh-graders.

Results on the California Achievement Test
Junior High Level Complete Battery-Form W

The data on the Language Mechanics component of the California Achievement Test as revealed by the raw scores obtained by the twenty-two Rural seventh-grade pupils of the Lovie Lyles Elementary School and the thirty-three Urban seventh-grade pupils in the Cedar Hill Elementary School, Cedartown, Georgia, 1962-1963, are presented in Tables 13 and 14, pages 45 and 47, respectively; and are analyzed in the separate paragraphs below.

Rural Group - For the 22 seventh-grade pupils the scores (grade

TABLE 13

DISTRIBUTION OF RAW SCORES ON LANGUAGE MECHANICS COMPONENT OF THE CALIFORNIA ACHIEVEMENT TEST AS OBTAINED BY TWENTY-TWO RURAL SEVENTH GRADE PUPILS AND THIRTY-THREE URBAN SEVENTH GRADE PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL AND THE CEDAR HILL ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA, 1962-1963

	Rural		Urban	
Scores	Number	Per Cent	Number	Per Cent
85 - 89			1	3.03
80 - 84				
75 - 79				
70 - 74	1	4.5	2	6.06
65 - 69				
60 - 64	1	4.5	5	15.15
55 - 59	2	9.1	1	3.03
50 - 54	3	13.6	6	18.18
45 - 49	3	13.6	1	3.03

TABLE 13--Continued

Scores	Rural		Urban	
	Number	Per Cent	Number	Per Cent
40 - 44	4	18.2		
35 - 39			6	18.18
30 - 34			1	3.03
25 - 29	7	31.8	3	9.09
20 - 24	1	4.5	7	21.21
Total	22	100	33	100
Mean	42.00		Mean	45.63
Median	43.25		Median	47.0
Sigma	14.15		Sigma	19.05
S.E.	3.1		S.E.	3.4

TABLE 14

SIGNIFICANT DIFFERENCES BETWEEN SCORES ON LANGUAGE MECHANICS COMPONENT OF THE CALIFORNIA ACHIEVEMENT TEST AS OBTAINED BY TWENTY-TWO RURAL SEVENTH GRADE PUPILS AND THIRTY-THREE URBAN SEVENTH GRADE PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL AND THE CEDAR HILL ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA, 1962-1963

Groups	Mean	Median	Sigma	S.E.	Diff. of $M_1 - M_2$	S.E. of Diff. of $M_1 - M_2$	"t"
Rural	42.00	43.25	14.15	3.1			
					3.63	4.6	.07
Urban	45.63	47.0	19.05	3.4			

placement) ranged from a low of 3.4 to a high of 8.5, with a mean of 42.00, a median of 43.25, a standard deviation of 14.15, and a standard error of the mean of 3.1: ten or 45.3 per cent scored above the mean, eight or 36.3 per cent scored below the mean, and four or 18.2 per cent scored within the mean class-interval. The mean score of 42.00 indicated a grade-placement index of 7.7, which was .2 points above the norm of expectancy in achievement.

Urban Group - For the 33 seventh-grade pupils the scores (grade placement) ranged from a low of 4.0 to a high of 10.5, with a mean of 45.63, a median of 47.0, a standard deviation of 19.05, a standard error of the mean of 3.4: fifteen or 45.45 per cent scored above the mean, seventeen or 51.51 per cent scored below the mean, and one or 3.03 per cent scored within the mean class interval. The mean score of 45.63 indicated a grade-placement index of 8.2, which was .7 years above the norm of expectancy in achievement.

The "t" ratio of Comparative Data.--Table 14, page 47, shows the comparative measures for the two groups were as follows: the mean score for the Rural group was 42.00 and for the Urban group was 45.63, with a difference of 3.63 in favor of the Urban group; the median score for the Rural group was 43.25 and for the Urban group was 47.00, with a difference of 3.75 in favor of the Urban group; the standard deviation for the Rural group was 14.15 and for the Urban group was 19.05, with a difference of 4.90 in favor of the Urban group; the standard error of the mean for the Rural group was 3.1 and for the Urban group was 3.4, with a difference of .3 in favor of the Urban group. The standard error of the difference between the two means was 4.6.

The "t" for these data was .7 which was not significant for it was less than 2.58 at the .01 per cent level of confidence and at 54 degrees of freedom. Therefore, the difference on the Language Mechanics component of the California Achievement Test was not statistically significant for these two groups of subjects.

Interpretation.--A summary of the data analyzed and compared would appear to indicate that the grade placement of 7.8 and 7.8, for the Rural and Urban groups, respectively, was an indication that the former was educationally and the latter was educationally retarded accelerated as measured by the California Achievement Test.

Further, the question as to what extent the factors of socio-economic status and "culture-fair" tests could or would in an "equalizing" and/or "Plus" situation--have significantly altered the performance of these seventh-grade pupils would appear to be moot.

Lastly, and more significant, there is the question to what extent did the situation of the Urban group of seventh-graders provide a motivation more conducive to optimum growth and development than did the environment of the Rural seventh-graders.

Results on the California Achievement Test
Junior High Level Complete Battery-Form W

The data on the Spelling component of the California Achievement Test as revealed by the raw scores obtained by the twenty-two Rural seventh-grade pupils of the Lovie Lyles Elementary School and the thirty-three Urban seventh-grade pupils in the Cedar Hill Elementary School, Cedartown, Georgia, 1962-1963, are presented in Tables 15

and 16, pages 51 and 52, respectively; and are analyzed in the separate paragraphs below.

Rural Group - For the 22 seventh-grade pupils the scores (grade placement) ranged from a low of 3.0 to a high of 7.5 with a mean of 7.22, a median of 5.9, a standard deviation of 9.45, and a standard error of the mean of 2.0: six or 27.3 per cent scored above the mean, nine or 40.9 per cent scored below the mean, and seven or 31.8 per cent scored within the mean class-interval. The mean score of 7.22 indicated a grade-placement index of 5.5, which was 2.0 points below the norm of expectancy in achievement.

Urban Group - For the 33 seventh-grade pupils the score (grade placement) ranged from a low of 4.0 to a high of 11.8, with a mean of 13.93, a median of 13.66, a standard deviation of 9.25, and a standard error of the mean of 1.6: sixteen or 48.48 per cent scored above the mean, fourteen or 42.42 per cent scored below the mean, and three or 9.09 per cent scored within the mean class interval. The mean score of 13.93 indicated a grade-placement index of 7.3, which was .2 years below the norm of expectancy in achievement.

The "t" ratio of Comparative Data.--Table 16, page 52, shows the comparative measures for the two groups were as follows: the mean score for the Rural group was 7.22 and for the Urban group was 13.93, with a difference of 6.71 in favor of the Urban group; the median score for the Rural group was 5.90 and for the Urban group was 13.66, with a difference of 12.76 in favor of the Urban group; the standard deviation for the Rural group was 9.45 and for the Urban group was 9.25, with a difference of .20 in favor of the Rural group; the standard

TABLE 15

DISTRIBUTION OF THE RAW SCORES ON THE SPELLING COMPONENT OF THE CALIFORNIA ACHIEVEMENT TEST AS OBTAINED BY TWENTY-TWO RURAL SEVENTH GRADE PUPILS AND THIRTY-THREE URBAN SEVENTH GRADE PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL AND THE CEDAR HILL ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA, 1962-1963

	Rural		Urban	
Scores	Number	Per Cent	Number	Per Cent
30 - 34			1	3.03
25 - 29			4	12.12
20 - 24			7	21.21
15 - 19	4	18.2	4	12.12
10 - 14	2	9.1	3	9.09
5 - 9	7	31.8	7	21.21
0 - 4	9	40.9	7	21.21
Total	22	100	33	100
	Mean 7.22 Sigma 9.45		Mean 13.93 Sigma 9.25	
	Median 5.9 S.E. 2.0		Median 13.66 S.E. 1.6	

TABLE 16

SIGNIFICANT DIFFERENCES BETWEEN SCORES ON SPELLING COMPONENT OF THE CALIFORNIA ACHIEVEMENT TEST AS OBTAINED BY TWENTY-TWO RURAL SEVENTH GRADE PUPILS AND THIRTY-THREE URBAN SEVENTH GRADE PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL AND THE CEDAR HILL ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA. 1962-1963

Groups	Mean	Median	Sigma	S.E.	Diff. of $M_1 - M_2$	S.E. of Diff. of $M_1 - M_2$	"t"
Rural	7.22	5.9	9.45	2.0			
					6.71	2.2	3.0
Urban	13.93	13.66	9.25	1.6			

and the thirty-three urban seventh-grade pupils in the Cedar Hill Elementary School, Cedartown, Georgia, 1962-1963, are presented in Tables 17 and 18, pages 55 and 57, respectively; and are analyzed in the separate paragraphs below.

Rural Group - For the 22 seventh-grade pupils the scores (grade placement) ranged from a low of 3.2 to a high of 7.7, with a mean of 50.73, a median of 49.66, a standard deviation of 15.60, and a standard error of the mean of 3.4: ten or 45.4 per cent scored above the mean, six or 27.2 per cent scored below the mean, and six or 27.3 per cent scored within the mean class-interval. The mean score of 50.73 indicated a grade-placement index of 7.1, which was .4 points below the norm of expectancy in achievement.

Urban Group - For the 33 seventh-grade pupils the scores (grade placement) ranged from a low of 4.8 to a high of 10.6, with a mean of 57.58, a median of 58.0, a standard deviation of 26.10, and a standard error of the mean of 4.6: sixteen or 48.48 per cent scored above the mean, sixteen or 48.48 per cent scored below the mean, and one or 3.03 per cent scored within the mean class interval. The mean score of 57.58 indicated a grade-placement index of 7.8, which was .3 years above the norm of expectancy in achievement.

The "t" ratio of Comparative Data.--Table 18, page 57, shows the comparative measures for the two groups were as follows: the mean score for the Rural group was 50.73 and for the Urban group was 57.58 with a difference of 6.85 in favor of the Urban group; the median score for the Rural group was 49.66 and for the Urban group was 58.00, with a difference of 8.34 in favor of the Urban group; the standard deviation

TABLE 17

DISTRIBUTION OF RAW SCORES ON THE TOTAL LANGUAGE COMPONENT OF THE CALIFORNIA ACHIEVEMENT TEST AS OBTAINED BY TWENTY-TWO RURAL SEVENTH GRADE PUPILS AND THIRTY-THREE URBAN SEVENTH GRADE PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL AND THE CEDAR HILL ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA, 1962-1963

	Rural		Urban	
Scores	Number	Per Cent	Number	Per Cent
111 -115			1	3.03
106 -110				
101 -105			1	3.03
96 -100			1	3.03
91 - 95			1	3.03
86 - 90	1	4.5	4	12.12
81 - 85			1	3.03
76 - 80	1	4.5	2	6.06
71 - 75			3	9.09
66 - 70	4	18.2	2	6.06

TABLE 17--Continued

Scores	Rural		Urban	
	Number	Per Cent	Number	Per Cent
61 - 65				
56 - 60			1	3.03
51 - 55	4	18.2	2	6.06
46 - 50	6	27.3		
41 - 45			3	9.09
36 - 40			3	9.09
31 - 35	3	13.6		
26 - 30	2	9.1	5	15.15
21 - 25	1	4.5	3	9.09
Total	22	100	33	100
Mean	50.73		57.58	
Median	49.66		58.0	
Sigma	15.60		26.10	
S.E.	3.4		4.6	

TABLE 18

SIGNIFICANT DIFFERENCES BETWEEN SCORES ON THE TOTAL LANGUAGE COMPONENT OF THE CALIFORNIA ACHIEVEMENT TEST AS OBTAINED BY TWENTY-TWO RURAL SEVENTH GRADE PUPILS AND THIRTY-THREE URBAN SEVENTH GRADE PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL AND THE CEDAR HILL ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA, 1962-1963

Groups	Mean	Median	Sigma	S.E.	Diff. of $M_1 - M_2$	S.E. of Diff. of $M_1 - M_2$	"t"
Rural	50.73	49.66	15.60	3.4			
					6.85	1.8	3.8
Urban	57.58	58.0	26.10	4.6			

for the Rural group was 15.60 and for the Urban group was 26.10, with a difference of 10.50 in favor of the Urban group; the standard error of the mean for the Rural group was 3.4 and for the Urban group was 4.6, with a difference of 1.2 in favor of the Urban group. The standard error of the difference between the two means was 1.8.

The "t" for these data was 3.8, which was significant for it was as great 2.58 at the .01 per cent level of confidence and at 54 degree of freedom. Therefore, the difference on the Total Language component of the California Achievement Test was statistically significant for these two groups of subjects.

Interpretation.--A summary of the data analyzed and compared above would appear to indicate that the grade placement of 6.7 and 6.7, for the Rural and Urban group, respectively, was an indication that the former was educationally retarded and the latter was educationally retarded as measured by the California Achievement Test.

Further, the question as to what extent the factors of socio-economic status and "culture-fair" tests could or would in an "equalizing" and/or "plus" situation--have significantly altered the performance ot these seventh-grade pupils would appear to be moot.

Lastly, and more significant, there is the question to what extent did the situation of the Urban group of seventh-graders provide a motivation more conducive to optimum growth and development than did the environment of the Rural seventh-graders.

Results on the California Achievement Test
Junior High Level, Complete Battery-Form W

The data on the Total Battery component of the California Achievement Test as revealed by the raw scores obtained by the twenty-two Rural seventh-grade pupils of the Lovie Lyles Elementary School and the thirty-three Urban seventh-grade pupils in the Cedar Hill Elementary School, Cedartown, Georgia, 1962-1963, are presented in Tables 19 and 20, pages 60 and 62, respectively; and are analyzed in the separate paragraphs below.

Rural Group - For the 22 seventh grade pupils the scores (grade placement) ranged from a low of 4.2 to a high of 7.7, with a mean of 141.05, a median of 141.50, a standard deviation of 41.00, and a standard error of the mean of 8.9: eleven or 50.0 per cent scored above the mean, ten or 44.8 per cent scored below the mean, and one or 4.5 per cent scored within the mean class-interval. The mean score of 141.05 indicated a grade-placement index of 5.9, which was 1.6 points below the norm of expectancy in achievement.

Urban Group - For the 33 seventh-grade pupils the scores (grade placement) ranged from a low of 4.8 to a high of 9.8, with a mean of 152.56, a median of 163.10, a standard deviation of 46.30, and a standard error of the mean of 8.2: seventeen or 51.51 per cent scored above the mean, thirteen or 39.39 per cent scored below the mean, and three or 9.09 per cent scored within the mean class interval. The mean score of 152.56 indicated a grade-placement index of 6.1, which was 1.4 years below the norm of expectancy in achievement.

The "t" ratio of Comparative Data.--Table 20, page 62, shows the comparative measures for the two groups were as follows: the mean score for the Rural group was 141.05 and for the Urban group was 152.56,

TABLE 19

DISTRIBUTION OF SCORES ON TOTAL BATTERY OF THE CALIFORNIA ACHIEVEMENT TEST AS OBTAINED BY TWENTY-TWO RURAL SEVENTH GRADE PUPILS AND THIRTY-THREE URBAN SEVENTH GRADE PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL AND THE CEDAR HILL ELEMENTARY SCHOOL, RESPECTIVELY

	Rural		Urban	
Scores	Number	Per Cent	Number	Per Cent
232--241	1	4.5		
222 -231			2	6.06
212 -221			1	3.03
202 -211	1	4.5		
192 -201	1	4.5	4	12.12
182 -191	1	4.5	3	9.09
172 -181			4	12.12
162 -171	2	9.1	3	9.09
152 -161	3	13.6	3	9.09
142 -151	2	9.1	1	3.03

TABLE 19--Continued

Scores	Rural		Urban	
	Number	Per Cent	Number	Per Cent
132 -141	1	4.5	2	6.06
122 -131	3	13.6	2	6.06
112 -121	1	4.5	3	9.09
102 -111				
92 -101	4	18.2		
82 - 91	1	4.5		
72 - 81	1	4.5	2	6.06
62 - 71			3	9.09
Total	22	100	33	100

Mean	141.05	Mean	152.56
Median	141.5	Median	163.1
Sigma	41.00	Sigma	46.30
S.E.	8.9	S.E.	8.2

TABLE 20

SIGNIFICANT DIFFERENCES BETWEEN SCORES ON THE TOTAL BATTERY OF THE CALIFORNIA ACHIEVEMENT TEST AS OBTAINED BY TWENTY-TWO RURAL SEVENTH GRADE PUPILS AND THIRTY-THREE URBAN SEVENTH GRADE PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL AND THE CEDAR HILL ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA, 1962-1963

Groups	Mean	Median	Sigma	S.E.	Diff. of $M_1 - M_2$	S.E. of Diff. of $M_1 - M_2$	"t"
Rural	141.05	141.5	41.00	8.9			
					11.51	12.1	.9
Urban	152.56	163.1	46.30	8.2			

with a difference of 11.51 in favor of the Urban group; the median score for the Rural group was 141.5 and for the Urban group was 163.1, with a difference of 21.6 in favor of the Urban group; the standard deviation for the rural group was 41.00 and for the Urban group was 46.30, with a difference of 5.30 in favor of the urban group; the standard error of the mean for the Rural group was 8.9 and for the Urban group was 8.2, with a difference of.7 in favor of the Rural group. The standard error of the difference between the two means was 12.1.

The "t" for these data was .9 which was significant for it was less than 2.58 at the .01 per cent level of confidence and at 54 degree of freedom. Therefore, the difference on the Total Test component of the California Achievement Test was statistically significant for these two groups of subjects.

Interpretation.--A summary of the data analyzed and compared above would appear to indicate that the grade placement of 6.0 and 6.2, for the Rural group and Urban group, respectively, was an indication that the former was educationally retarded and the latter was educationally retarded as measured by the California Achievement Test.

Further, the question as to what extent the factors of socio-economic status and "culture-fair" tests could or would in an "equalizing" an/or "plus" situation--have significantly altered the performance of these seventh-grade pupils would appear to be moot.

Lastly, and more significant, there is the question to what extent did the situation of the Urban group of seventh-graders provide a motivation more conducive to optimum growth and development than did the environment of the Rural seventh-graders.

Correlation Data

The two main objectives in the treatment of the data on this research were: (a) to determine the significant differences on the variables of reading, arithmetic and language between a group of rural seventh-grade pupils, and (b) to determine the degree of correlation, if any, among the paired variables on the respective tests administered to the two groups, and in addition to determine the significance of the difference between the "r's" for the two groups.

This section of the report of this research, therefore, will present the data on the obtained correlation for the paired variables reading and arithmetic, reading and language, and arithmetic and language for the groups of seventh-grade pupils of the Lovie Lyles Elementary School and the Cedar Hill Elementary School, Cedartown, Georgia, 1962-1963.

Correlation Data for the Lovie Lyles School

Table 21 presents the data on the correlations for the paired variables of reading, arithmetic, and language for the Lovie Lyles Elementary School, Cedartown, Georgia, 1962-1963.

"r" for Reading and Language

The correlation between reading and language on the California Achievement Test was indicated by an "r" of .26 which was not significant for it was less than the criterion of a "r" of .526.

"r" for Reading and Arithmetic

TABLE 21

CORRELATIONS ON THE CALIFORNIA ACHIEVEMENT TEST ON THE PAIRED VARIABLES OF READING, ARITHMETIC, AND LANGUAGE AS OBSERVED FOR THE TWENTY-TWO SEVENTH GRADE PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA, 1962-1963

Paired Variables	Obtained r	Criterion r	Significance S or NS
Reading and Language	.26	.526	NS
Reading and Arithmetic	.29	.526	NS
Arithmetic and Language	.21	.526	NS

The correlation between reading and arithmetic on the California Achievement Test was indicated by an "r" of .29 which was not significant for it was less than the criterion of "r" of .526.

"r" for Arithmetic and Language

The correlatinn between arithmetic and language on the California Achievement Test was indicated by an "r" of .21 which was not significant for it was less than the criterion of an "r" of .526.

Correlation Data for the Cedar Hill School

Table 22 presents the data on the correlations for the paired variables of reading, arithmetic and language for the Cedar Hill Elementary School, Cedartown, Georgia, 1962-1963.

"r" for Reading and Language

The correlation between reading and language on the California Achievement Test was indicated by an "r" of .23 which was not significant for it was less than the criterion of an "r" of .437.

"r" for Reading and Arithmetic

The correlation between reading and arithmetic on the California Achievement Test was indicated by an "r" of .30 which was not significant for it was less than the criterion of an "r" of .437.

"r" for Arithmetic and Language

The correlation between arithmetic and language on the California Achievement Test indicated and "r" of .26 which was not significant for it was less than the criterion of an "r" of .437.

TABLE 22

CORRELATIONS ON THE CALIFORNIA ACHIEVEMENT TEST ON THE PAIRED VARIABLES OF READING, ARITHMETIC, AND LANGUAGE AS OBSERVED FOR THE THIRTY-THREE SEVENTH GRADE PUPILS OF THE CEDAR HILL ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA, 1962-1963

Paired Variables	Obtained r	Criterion r	Significance S or NS
Reading and Language	.23	.437	NS
Reading and Arithmetic	.30	.437	NS
Arithmetic and Language	.26	.437	NS

Significant Differences Between the Correlation Coefficients for the Two Schools

Table 23 presents data on the significant differences between the obtained "r's" of the paired test variables scored to wit, reading and language, reading and arithmetic, and arithmetic and language for the Lovie Lyles Elementary School and the Cedar Hill Elementary School, respectively.

"t" Ratio for Reading and Language for Urban and Rural Seventh-Grade Pupils, Cedartown, Georgia

The "r" for the Rural group was .26 with a "z-" score equivalent of .27. The "r" for the Urban group was .23 with a "z-" score equivalent of .26. The difference between the two "z's" was .01.

The "t" ratio was found to be .35. This "t" was not significant for it was not as great as 2.58 at the one percent level of confidence. Therefore, the difference between the two "r's" for the Rural and Urban group as shown by the California Achievement Test in reading and language was not significant.

"t" Ratio for Reading and Arithmetic for Urban and Rural Seventh-Grade Pupils, Cedartown, Georgia

The "r" as presented in Table 23 was .29 with a "z-" score equivalent of .30 for the Rural group. The "r" for the Urban group was .30 with a "z-" score equivalent of .31. The difference between the two "z-s" was .01.

The "t" ratio was found to be .35. This "t" was not significant

TABLE 23

SIGNIFICANT DIFFERENCES IN THE CORRELATIONS OF THE CALIFORNIA ACHIEVEMENT TEST ON THE PAIRED VARIABLES OF READING, ARITHMETIC, AND LANGUAGE FOR URBAN AND RURAL PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL AND THE CEDAR HILL ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA, 1962-1963

Paired Variables	Rural			Urban			Difference Data		
	Number	"r"	"Z" Equivalent	Number	"r"	"Z" Equivalent	Diff. of $Z_1 - Z_2$	S.E. of $Z_1 - Z_2$	"t"
Reading and Language	22	.26	.27	33	.23	.26	.01	.28	.35
Reading and Arithmetic	22	.29	.30	33	.30	.31	.01	.28	.35
Arithmetic and Language	22	.21	.26	33	.26	.27	.01	.28	.35

for it was less than 2.58 at the one per cent level of confidence. Therefore, the "r's" for the rural and urban group as shown by the California Achievement Test in reading and arithmetic were not significant.

Significant Differences Between the Correlations on the Paired Variables

Table 23

The significant differences of the paired "r's" were as follows: (a) on the Reading and Language: the z-score equivalents were .27 and .26 for the rural and urban groups, respectively; a difference between the two z-scores equivalents of .01, a standard error of the "r" of .28 with a "t" of .35; (b) on the Reading and Arithmetic the "z" score equivalents were .30 and .31 for the rural and urban groups, respectively; a difference between the two "z" scores equivalents of .01, a standard error of the "r" of .28 with a "t" of .35; and (c) on the Arithmetic and Language the "z" scores equivalents were .26 and .27 for the rural and urban groups, respectively; a difference between the two "z" scores equivalents of .01, a standard error of the "r" of .28 with a "t" of .35. These "r's" were not significant for they were less than 2.58 at the one per cent level of confidence. Therefore, no significant difference exists between the Reading and Language, Reading and Arithmetic and the Arithmetic and Language of the fifty-five rural and urban seventh-grade pupils of the Lovie Lyles Elementary School and the Cedar Hill Elementary School, Cedartown, Georgia, 1962-1963.

Summary of the Statistics on the Total Test

Table 24

All of the statistics basic to the analysis and interpretation of the data derived from the raw-scores obtained on the total test are consolidated in the Summary Table 24.

Interpretative Summary on Correlations ("r's").--Table 23 presents the data on correlations and their significant differences on the paired variables of the California Tests: Reading and Language, Reading and Arithmetic, and Arithmetic and Language, with the results categorized in the separate paragraphs to follow:

1. Reading and Language - The "r" was not significant with reference to either the criterion (t) "r" of .526 for the rural group of pupils or the criterion (t) "r" of .437 for the urban group of pupils.

2. Reading and Arithmetic - The "r" was not significant with reference to the criterion "r" or its "t."

3. Arithmetic and Language - The "r" was not significant with reference to the criterion (t) "r."

4. The "r" for reading and arithmetic showed the largest "r" index, with the r's for reading and language and arithmetic and language being almost identical. It would appear that reading and arithmetic tend to be positively and highly correlated.

Interpretative Summary on Significant Differences of "r's.--Table 23 presents the data on the significant differences on the paired variables of the California Tests: Reading and Language, Reading and Arithmetic, Arithmetic and Language, with results categorized in the separate paragraphs to follow:

1. There were no significant differences between the "r's" ("z-" score equivalents) on the paired variables of the three

TABLE 24

SUMMARY OF DATA DERIVED FROM THE SCORES ON THE CALIFORNIA ACHIEVEMENT TEST (READING, ARITHMETIC, AND LANGUAGE) AS OBTAINED BY THE TWENTY-TWO RURAL SEVENTH GRADE PUPILS AND THE THIRTY-THREE URBAN SEVENTH GRADE PUPILS OF THE LOVIE LYLES ELEMENTARY SCHOOL AND THE CEDAR HILL ELEMENTARY SCHOOL, CEDARTOWN, GEORGIA, 1962-1963

Test Variable	Rural						Urban					
	N	Mean	Median	Sigma	S.E.	Gr. Pl.	N	Mean	Median	Sigma	S.E.	Gr. Pl.
Reading Vocabulary	22	22.45	23.5	10.60	2.3	6.0	33	20.03	19.8	7.80	1.4	5.6
Reading Comprehension	22	27.81	24.9	11.10	2.4	6.0	33	31.45	32.0	8.95	1.6	7.0
Total Reading	22	49.45	46.5	16.00	3.5	6.0	33	50.81	49.6	15.30	2.9	6.3
Arithmetic Fundamentals	22	26.50	25.25	10.05	3.0	5.6	33	33.69	32.12	12.90	2.3	5.9
Arithmetic Reasoning	22	15.31	15.16	6.05	1.3	5.6	33	17.06	17.25	8.20	1.4	5.6
Total Arithmetic	22	41.22	40.3	14.55	3.2	5.6	33	51.42	49.0	21.05	3.7	5.7
Language Mechanics	22	42.00	43.25	14.15	3.1	7.8	33	45.63	47.0	19.05	3.4	7.8
Spelling	22	7.22	5.9	9.45	2.0	5.6	33	13.93	13.66	9.25	1.6	5.7
Total Language	22	50.73	49.66	15.60	3.4	6.7	33	57.58	58.0	26.10	4.6	6.7
Total Battery	22	141.05	141.5	41.00	8.9	6.0	33	152.56	163.1	46.30	8.2	6.2

TABLE 24--Continued

Difference Data		
$M_1 - M_2$	S.E. $M_1 - M_2$	"t"
2.42	2.6	.9
3.64	2.8	1.2
1.36	1.4	.9
7.19	3.7	1.9
1.75	1.9	.9
10.20	4.8	2.1
3.63	4.6	.7
6.71	2.2	3.0
6.85	1.8	3.8
11.51	12.1	.9

components, reading, language and arithmetic between the group of rural and seventh-grade pupils and the group of urban seventh-grade pupils.

2. With reference to the "t" index the r's tended to be similar in size and direction on all of the paired variables of reading and Language, Reading and Arithmetic and Arithmetic and Language for both the group of rural seventh-grade pupils and the group of urban seventh-grade pupils.

Interpretative Summary of Trends Indicated by Test Data.--A review of the findings derived from the test-scores and their indices on the California Achievement Test: Reading, Arithmetic and Language would appear to warrant the statement of "trends" characterized in separate paragraphs below:

1. These seventh-grade pupils showed a marked degree of retardation in their total reading although the urban group was only .5 below the norm of expectancy on the component of Reading comprehension.

2. These seventh-grade pupils showed a marked degree of retardation in their total arithmetic.

3. These seventh-grade pupils showed a marked degree of retardation in their total language although they were above the norm of expectancy in language mechanics.

4. These seventh-grade pupils manifested in an overall manner an appreciable degree of retardation of performance on the total Battery. However, the data do not indicate whether this retardation is due to native endowment or environmental conditions or unfamiliarity with the correct procedure in executing a standardized test.

5. The differences in scholastic accomplishment between the rural and urban seventh-grade pupils appeared to be "selective" among the subject-matter variables and not general for all the subject-matter areas between the rural and urban seventh-graders as respective groups of the rural and urban seventh-graders; for the "t's" favoring the rural or urban seventh-graders varied among subject-matter areas, such as reading, arithmetic, and language, and varied among the specific subjects such as reading comprehension, reading vocabulary, arithmetic learning and arithmetic fundamentals, mechanics of language and spelling for the respective

rural and urban groups.

"t" Ratio for Arithmetic and Language for Urban and Rural Seventh-Grade Pupils, Cedartown, Georgia

The "r" for the rural group as presented in Table 23 was .21 with a "z-" score equivalent of. .26. The "r" for the urban group was .26 with a "z"-score equivalent of .27. The difference between the two "z's" was .01.

The "t" was found to be .35. This "t" was not significant for it was less than 2.58 at the one per cent level of confidence. Therefore, the difference between the two "r's" for the rural and urban group as shown by the California Achievement Test in Arithmetic and Language were not significant.

Resume of Findings

Prefatory Statement.--All the quantitative measures basic to the analysis and interpretation of the data presented throughout this chapter are summarized in Tables 23 and Table 24.

Interpretative summaries of the quantitative data as consolidated in Summary Tables 23 and 24, which, in turn, were derived from the 22 tables of the analysis, comparison, and correlation of the basic data presented throughout this chapter, will be presented in the immediate sections to follow.

Interpretative Summaries

Introductory Statement.--The interpretative summaries of the findings of this research will be viewed under two captions: (a)

Achievement: Reading, Arithmetic, and Language, and Total areas, respectively, for the rural and urban seventh-grade pupils, and (b) Significant Differences between the correlations on the paired variables of Reading and Language, Reading and Arithmetic, and Language and Arithmetic between the rural and urban group.

Interpretative Summary on Achievement (Reading Vocabulary).--The data on the California Achievement Test (Reading Vocabulary), as presented in Table 24 may be summarized and interpreted as follows:

1. There was no significant difference in either the rural or urban group of pupils on the component of reading vocabulary. The "t" for these groups was not significant for it was less than 2.58 at the one per cent level of confidence and at 54 degrees of freedom. Therefore, there was no significant difference on reading vocabulary performance for the two groups.

2. In terms of the grade-placement index: both the rural and urban group were found to be below the norm of expectancy on the reading vocabulary component with 6.0 and 5.6 grade placement for the rural and urban groups, respectively.

Interpretative Summary on Achievement (Reading Comprehension).--The data on the California Achievement Test (Reading Comprehension) as presented in Table 24 may be summarized and interpreted as follows:

1. There was no significant difference in either the rural or urban group of pupils on the component of reading comprehension. The "t" was not significant for it was less than 2.58 at the one (.01) per cent level of confidence at 54 degrees of freedom. Therefore, there was no significant difference on reading comprehension performance for the two groups.

2. In terms of the grade-placement index: both the rural and urban group were found to be below the norm of expectancy on the reading comprehension component with 6.0 and 7.0 grade placement for the rural and urban groups, respectively.

Interpretative Summary on Achievement (Total Reading).--The data

on the California Achievement Test (Total Reading), as presented in Table 24, may be summarized and interpreted as follows:

1. There was no significant difference between the rural and urban pupils on the total reading component. The "t" was not significant for it was less than 2.58 at the one (.01) per cent level of confidence and at 5.4 degrees of freedom. Therefore, there was no significant difference on the total reading performance for the two groups.

2. In terms of the grade-placement index: both the rural and urban pupils were found to be below the norm of expectancy on the total reading component with 6.0 and 6.3 grade placement for the rural and urban group, respectively.

Interpretative Summary on Achievement (Arithmetic Fundamentals).--The data on the California Achievement Test (Arithmetic Fundamenals), as presented in Table 24, may be summarized and interpreted as follows:

1. There was no significant difference between the rural and urban groups of pupils on the arithmetic fundamentals component. The "t" was not significant for it was less than 2.58 at the one (.01) per cent level of confidence at 54 degrees of freedom. Therefore, there was no significant difference in arithmetic fundamentals performance for the two groups.

2. In terms of the grade-placement index: both the rural and urban pupils were found to be below the norm of expectancy on the arithmetic fundamentals component with 5.6 and 5.9 grade placement for the rural and urban groups, respectively.

Interpretative Summary on Achievement (Arithmetic Reasoning).--The data on the California Achievement Test (Arithmetic Reasoning), as presented in Table 24, may be summarized and interpreted as follows:

1. There was no significant difference in the rural and urban group of pupils on the arithmetic reasoning component. The "t" for these groups was not significant for it was less than 2.58 at the one (.01) per cent level of confidence and at 54 degrees of freedom. Therefore, there was no significant difference on arithmetic reasoning performance for the two groups.

2. In terms of the grade-placement index: both the rural and urban group were found to be below the norm of expectancy

on the arithmetic reasoning component with 5.6 and 5.9 grade placement for the rural and urban groups, respectively.

Interpretative Summary on Achievement (Total Arithmetic).--The data on the California Achievement Test (Total Arithmetic), as presented in Table 24, may be summarized and interpreted as follows:

1. There was no significant difference between the rural and urban group of pupils on the component of total arithmetic. The "t" for these groups was not significant for it was less than 2.58 at the one (.01) per cent level of confidence and at 54 degrees of freedom. Therefore, there was no significant difference on the total arithmetic performance for the two groups.

2. In terms of the grade-placement index: both the rural and the urban groups were found to be below the norm of expectancy on the total arithmetic component with 5.6 and 5.7 grade placement for the rural and urban groups, respectively.

Interpretative Summary on Achievement (Language Mechanics).--The data on the California Achievement Test (Language Mechanics), as presented in Table 24, may be summarized and interpreted as follows:

1. There was no significant difference in the rural and urban groups of pupils on the component of language mechanics. The "t" was not significant for it was less than 2.58 at 54 degrees of freedom. Therefore, there was no significant difference on language mechanics performance for the two groups.

2. In terms of the grade-placement index: both the rural and urban groups were found to be above the norm of expectancy on the language mechanics component with 7.8 and 7.8 grade placement for the rural and urban groups, respectively.

Interpretative Summary on Achievement (Spelling).--The data on the California Achievement Test (Spelling), as presented in Table 24, may be summarized and interpreted as follows:

1. There was a significant difference in the rural and urban group of seventh-grade pupils on the spelling component. The "t" for these groups was significant for it was more than 2.58 at the one (.01) per cent level of confidence and at 54 degrees of freedom. Therefore, there was a

significant difference on spelling performance for the two groups.

2. In terms of the grade-placement index: both the rural and the urban group of seventh-grade pupils were found to be below the norm of expectancy on the spelling component with 5.6 and 5.7 grade placement for the rural and urban groups, respectively.

Interpretative Summary on Achievement (Total Language).--The data on the California Achievement Test (Total Language), as presented in Table 24, may be summarized and interpreted as follows:

1. There was a significant difference in the group or rural and urban seventh-grade pupils on the component of total language. The "t" for these groups was significant for it was more than 2.58 at the one (.01) per cent level of confidence and at 54 degrees of confidence. Therefore, there was a significant difference in the total language performance of the rural and urban seventh-grade groups, respectively.

2. In terms of the grade-placement index: both the rural and urban group were found to be below the norm of expectancy on the total language component with 6.7 and 6.7 grade placement for the rural and urban seventh-grade pupils, respectively.

Interpretative Summary on Achievement (Total Battery).--The data on the California Achievement Test (Total Battery), as presented in Table 24, may be summarized and interpreted as follows:

1. There was no significant difference in the rural and urban group of seventh-grade pupils on the total battery. The "t" for these groups was not significant for it was less than 2.58 at the one (.01) per cent level of confidence and at 54 degrees of freedom. Therefore, there was no significant difference on the total battery performance for the two groups.

2. In terms of the grade-placement index: both the rural and urban groups were found to be below the norm of expectancy on the total test battery with 6.0 and 6.2 grade placement for the rural and urban seventh-grade pupils, respectively.

CHAPTER III

SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Rationale.--The significant difference between effective educational programs in rural areas and urban areas hold two points of view. There are those who believe that rural education is no different from urban education, They base this belief on the fact that all American youth, wherever they live, must develop the fundamental skills and have attitudes, ideas, and knowledge that enable them to be competent citizens. Others accept the education of rural and urban students as two different systems. These persons feel that rural schools should have different objectives from those of urban schools. The chief argument for different objectives is that rural children have different backgrounds, live in a different environment, and as adults will be more likely to live in a rural environment.

These points-of-view have encouraged the writer to make a survey of the literature which deals with rural-urban education. Many educators have studied the differences in achievement between rural and urban students. Clem and Hovey made a study of 193 village school pupils as to their performance in the New York State Regent Examination which is a battery of tests comprising English, geography, spelling and history. It was found that the mean of the village group was higher than the rural group in subject. The standard deviations were smaller for the rural schools than for the village schools.

In his study of rural and urban ninth grade pupils in the Summer Hill High School, Cartersville, Georgia, Morgan found that there was no difference in achievement of the rural and urban children studied.

The United States has rapidly become urbanized, while the rural population during each succeeding decade since 1950 has become a smaller per cent of the total population. Between 1950 and 1956, the total population increased not only in numbers, but also in per cent of the total population. The most rapidly growing segment of the population of the United States is, and for sometime has been, the rural non-farm population.

There is a widespread opinion in the United States today that farming, rural life, and rural communities are rapidly becoming extinct and that soon there will be no such thing as rural education or rural anything else.

Regardless of the trends in rural population as a per cent of the National total, it is a fact that rural education is still concerned with a sizeable army of people.

But in the final analysis, it matters little whether the future man or woman lives on the farm or in the city, for the kind of training which will adapt a man or woman to live in open country will prove useful anywhere; and it will prove useful largely because it has been effective in awakening thinking, establishing standards and refining judgments.

Evolution of the Problem.--The writer became interested in the problem after observing the differences in the rate of achievement

as evidenced by test scores and teachers' grades in the Lovie Lyles Elementary School and the Cedar Hill Elementary School, respectively.

Contribution to Educational Knowledge.--Although the two institutions included in this study represent separate school systems, the pupils become as one group when they enter the eighth grade. Since this is true, it is the hope of the writer that the present study will have implications for closer, cooperation in curriculum planning and evaluation both the two school systems and the two schools. The writer also hopes that the study will have implications in the improvement of the educational program of any school to which the data might apply.

Statement of the Problem.--The problem involved in this study was to determine the tested differences and correlation, if any, in school achievement, reading, language and arithmetic, between Rural and Urban seventh-grade pupils of the Lovie Lyles Elementary School and the Cedar Hill Elementary School, Cedartown, Georgia, 1962-1963.

Purpose of the Study.--The major purpose of this study was to identify the indices of school achievement for seventh-grade urban and rural pupils, together with the determination of whatever statistical differences and correlations there may be in the observed achievement between the two groups.

More specifically, the purposes of this study were to determine:

1. The measures of central tendency and variability on the variables of reading, language, and arithmetic achievement for a group of urban and a group of rural seventh-grade pupils as measured by the California Achievement Test.

2. The significant difference, if any, on the variable of

reading between the groups of urban seventh-grade pupils and rural seventh-grade pupils.

3. The significant difference, if any, on the variable of language between groups of urban and rural seventh-grade pupils.

4. The significant difference, if any, on the variable of arithmetic between two groups of seventh grade pupils, urban and rural.

5. The correlation, if any, on the paired variables of the reading, language, and arithmetic for the respective groups of urban and rural seventh-grade pupils.

6. The significant difference, if any, in the correlation on the paired variables of reading, language, and arithmetic between the urban and rural seventh-grade pupils.

7. The implications, if any, for educational theory and practice as derived from the interpretation of the data.

Locale and Research-Design of Study.--The significant aspects of the Locale and the Research-Design of this research are indicated below.

1. Locale and Period - This study was conducted during the 1962-1963 regular school term. The locale of the research was the Lovie Lyles Elementary School and the Cedar Hill Elementary School, Cedartown, Georgia.

2. Research Method - The Descriptive-Survey Method of research, employing the specific techniques of testing and statistical analysis, was used to gather the necessary data for this study.

3. Subjects - There were fifty-five pupils in the seventh grades of the Lovie Lyles Elementary and the Cedar Hill Elementary Schools, respectively, Cedartown, Georgia. All of these fifty-five pupils were tested and used as subjects for this study.

4. Instruments - The instruments used in this research were: (a) official school records, and (b) the California Achievement Test, Junior High Level, Form W, Complete Battery.

5. Criterion of Reliability - The "criterion of reliability" used to test the significant differences of the data

between the two groups; rural and urban was a Fisher's "t" of 2.58 at the one per cent level of confidence for 54 degrees of freedom and the correlations were referred to a "t" of .470 for 27 degrees of freedom, at the one per cent level of confidence.

Research Procedures.--Research procedures for this study were as follows:

1. Permission to conduct the study was secured from the proper authorities.

2. Survey of available literature pertinent to the study was reviewed, summarized and presented in the thesis.

3. Urban and rural pupils were identified from the official school records.

4. The California Achievement Test was administered to the seventh-grade pupils in the rural and urban schools concerned with this research.

5. The data were assembled in appropriate tables and statistically treated as determined by the purposes of the study.

6. The following statistical measures were computed: mean, median, Sigma, standard error of the mean, standard error of the difference between two means, Fisher's "t" and "r."

7. The findings, conclusions, implications and recommendations were formulated and incorporated in the finished thesis copy.

Summary of Related Literature.--From the review of related literature, there seems to be consensus among many authorities, that there is a difference in achievement of rural children and urban children.

Nevertheless, the related literature also reveals rather constant doubt on the part of the investigator as to the validity of the instrument used for measuring these differences; that is, it is generally thought that rural children score lower on these various tests not because of inferior abilities but because the tests

usually serve as an interpretation of urban environment.

In fact, Smith referred to a study done by Myra E. Shimberg that points out this new view. Her study posited the hypothesis that the failure of the rural children to score as high on intelligence test as urban children is due not to any innate intellectual differences between the two groups, but the tools used in measuring them.

From the literature, the writer secured significant points of view and listed them along with the various authors. These interesting and pertinent observations have been summarized and reported in the succeeding paragraphs.

1. Baldwin, Fillmore and Hadley - Rural school children showed definite intellectual retardation.

2. Brazziel and Terrell - Children from culturally disadvantaged homes come to slightly less prepared in both literary and social learning than the middle or upper class children and as a result, carry from the school a disproportionately smaller gain in learning.

3. Carrell - His study revealed that rural children are as average in grade placement as are urban children.

4. Clark - Achievement in actual performance; it is what one does regardless of his capabilities.

5. Kyte - Achievement quotient in the three r's was as good in rural as in urban schools.

6. Martens - The results of many of the studies of comparative achievements of rural children have shown a general superiority in academic achievement of town pupils over rural pupils. One of the great weaknesses of many studies of rural children has been the fact that no control was used to evaluate the pupil ability.

7. Martin and Stendler - "American schools do not take into account individual growth rates. They still tend to compare an individual with his group average rather than his own growth pattern. They also compare children's school achievement norms. But growth and achievement are not uniform for all individuals nor do they tend to proceed in a straight line!"

8. Morgan - There was no difference in achievement of urban and rural ninth-grade pupils in Cartersville, Georgia.

9. McNemar - Rural children averaged less in achievement than urban children in all age groups ranging from six to eighteen.

10. Shimberg - Differences between rural and urban children are slight and there is much overlapping.

11. Sorokin, Zimmerman and Golpin - Tests are baised in favor of urban groups.

12. Strang - Many of the tests used in rural schools do not test the most important objectives of rural education. Their norms are not entirely appropriate for rural children.

The review of related Literature led to the following conclusions:

1. There is a rather constant difference in school achievement between rural and urban pupils in favor of urban pupils.

2. The related literature also revealed that the instruments used to measure these differences are to some extent biased in favor of urban pupils.

3. The failure of rural children to score as high on standardized tests as urban children is not due to any innate intellectual differences between the two groups but to the tools, used in measuring them.

Summary of the Basic Findings

Prefatory Statement.--The summary of the basic findings of this research dealing with the tested differences and correlations, if any, in the school achievement (Reading, Language, and Arithmetic) between Rural seventh-grade pupils and Urban seventh-grade pupils of the Lovie Lyles Elementary School and the Cedar Hill Elementary School, Cedartown, Georgia, 1962-1963 are presented below under the appropriate data-captions.

Reading Vocabulary

Tables 1-2

The performance on the Reading Vocabulary Component indicated: for the rural group a mean of 22.45, a standard deviation of 23.5, a standard error of the mean of 2.3 and a grade placement of 6.0; whereas, for the urban group a mean of 20.03, a standard deviatinn of 7.80, a standard error of the mean of 1.4 and a grade placement of 5.6. The two groups showed a difference between the means of 2.42, a standard error of the difference between the two means of 2.6, and a "t" of .09 which was not significant.

Reading Comprehension

Tables 3-4

The performance on the Reading Comprehension Component indicated: for the rural group a mean of 27.81, a standard deviation of 11.10; a standard error of the mean of 2.4 and a grade placement of 6.0; whereas, for the urban group a mean of 31.45, a standard deviation of 8.95, a standard error of the mean of 1.6 and a grade placement of 7.0. The two groups showed a difference between the means of 3.64, a standard error of the difference between the two means of 2.8, and a "t" of 1.2 which was not significant.

Total Reading

Tables 5-6

The performance on the Total Reading Component indicated: for the rural group a mean of 49.45, a standard deviation of 16.00, a standard error of the mean of 3.5 and a grade placement of 6.0; whereas, for the urban group a mean of 50.81, a standard deviation of 15.30, a standard error of the mean of 2.9 and a grade placement of 6.3. The two groups

showed a difference between the two means of 1.36, a standard error of the difference between the two means of 1.4, and a "t" of .09 which was not significant.

Arithmetic Fundamentals

Tables 7-8

The performance on the Arithmetic Fundamentals indicated: for the rural group a mean of 26.50, a standard deviation of 10.05, a standard error of the mean of 3.0, and a grade placement of 5.6; whereas, for the urban group a mean of 33.69, a standard deviation of 12.90, a standard error of the mean of 2.3 and a grade placement of 5.9. The two groups showed a difference between the means of 7.19, a standard error of the difference between the two means of 3.7 and a "t" of 1.9 which was not significant.

Arithmetic Reasoning

Tables 9-10

The performance on the Arithmetic Reasoning Component indicated: for the rural group a mean of 15.31, a standard deviation of 6.05, a standard error of the mean of 1.3 and a grade placement of 5.6; whereas, for the urban group a mean of 17.06, a standard deviation of 8.20, a standard error of the mean of 1.4, and a grade placement of 5.6. The two groups showed a difference between the means of 1.75, a standard error of the difference between the two means of 1.9, and a "t" of .09 which was not significant.

Total Arithmetic

Tables 11-12

The performance on the Total Arithmetic Component indicated: for the rural group a mean of 41.22, a standard deviation of 14.55, a standard error of the mean of 3.2 and a grade placement of 5.6; whereas, for the urban group a mean of 51.42, a standard deviation of 21.05, a standard error of the mean of 3.7 and a grade placement of 5.7. The two groups showed a difference between the means of 10.20, a standard error of the difference between the two means of 1.5, and a "t" of 6.8 which was significant.

Language Mechanics

Tables 13-14

The performance on the Language Mechanics Component indicated: for the rural group a mean of 42.00, a standard deviation of 14.15, a standard error of the mean of 3.1 and a grade placement of 7.8; whereas, for the urban group a mean of 45.63, a standard deviation of 19.05, a standard error of the mean of 3.4, and a grade placement of 7.8. The two groups showed a difference between the means of 3.63, a standard error of the difference between the two means of 4.6, and a "t" of .07 which was not significant.

Spelling

Tables 15-16

The performance on the Spelling Component indicated: for the rural group a mean of 7.22, a standard deviation of 9.45, a standard error of the mean of 2.0 and a grade placement of 5.6; whereas, for the urban group a mean of 13.93, a standard deviation of 9.25, a standard error of the mean of 1.6, and a grade placement of 5.7. The

two groups showed a difference between the means of 6.71, a standard error of the difference between the two means of 2.2 and a "t" of 3.0 which was not significant.

Total Language

Tables 17-18

The performance on the Total Language Component indicated: for the rural group a mean of 50.73, a standard deviation of 15.60, a standard error of the mean of 3.4 and a grade placement of 6.7; whereas for the urban group a mean of 57.58, a standard deviation of 26.10, a standard error of the mean of 4.6 and a grade placement of 6.7. The two groups showed a difference between the means of 6.85, a standard error of the difference between the two means of 1.8 and a "t" of 3.8 which was significant.

Total Battery

Tables 19-20

The performance on the Total Test indicated: for the rural group a mean of 141.05, a standard deviation of 41.00 a standard error of the mean of 8.9 and a grade placement of 6.0; whereas for the urban group a mean of 152.56, a standard deviation of 46.30, a standard error of the mean of 8.2 and a grade placement of 6.2. The two groups showed a difference between the means of 11.51, a standard error of the difference between the two means of 4.5 and a "t" of 2.5 which was not significant.

Correlations on the Paired Variables

Tables 21, 22 and 23

The "r's" on the paired variables were: (a) Reading and Language .26 and .23 for the rural and urban, respectively; Reading and Language .29 and.30 for the rural and urban groups, respectively, and (c) Arithmetic and Language .21 and .26 for the rural and urban groups, respectively; the "z" score equivalents were: (a) Reading and Language .27 and .26 for the rural and urban groups, respectively; (b) Reading and Arithmetic .30 and .31 for the rural and urban groups, respectively; and (c) Arithemetic and Language .26 and .27 for the rural and urban groups, respectively. The two groups showed a difference between the "z" score equivalents of .01 ; a standard error of the difference between the "z" score equivalents of .28 and a "t" of .35, respectively, on each of the paired variables of the test. None of the "r's" were significant.

Conclusions.--The findings of this research appear to warrant the following conclusions:

1. It would appear that neither the rural group nor the urban group of pupils were educationally accelerated, but were achieving somewhat slower than the norm for the group would warrant.

2. The data revealed that the rural and urban groups were experiencing equal or similar accomplishment in reading for there was no statistically significant difference in the California Achievement Test marks earned by them in this area of school achievement.

3. It would appear that the two groups were at the same level in the development of arithmetic skills, for there was no statistically significant difference in the marks earned by them in this area.

4. It was found that both urban and rural pupils of Lovie Lyles Elementary School and the Cedar Hill Elementary School were not progressing equally in their language ability for the data revealed statistically significant difference in the area of language.

5. The data seem to warrant the conclusion that the seventh-grade

pupils of the Lovie Lyles Elementary School and the Cedar Hill Elementary School were experiencing the same or approximately the same or similar levels in their school accomplishment.

Implications.--The research seems to warrant the following implications which are additions to those inherent in the conclusions:

1. That there is an outstanding need for testing these pupils in all areas of development so as to determine the cause for the educational retardation which they are experiencing.

2. That there is no significant difference in rural and urban pupils who are experienceing the same or similar school environments.

Recommendations.--The following recommendations seem justified and appropriate on the basis of the findings, conclusions and implications:

1. That further studies be made to test the conclusions made in earlier years with respect to differences in rural and urban pupils.

2. That the schools involved in this study should initiate a testing program throughout the schools to be used as the bases for a more adequate program of educational diagnosis.

3. That the two schools should seriously consider the redirection and re-emphasis of their instructional procedures so as to foster a high level of scholastic attainment.

4. That the schools use standardized tests more frequently so as to provide the pupils with the opportunity of becoming more "test-wise" in their test performance.

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APPENDIX

VITA

Atwater, Gladys Roper

Education -

Graduate - Cedar Hill High School, Cedartown, Georgia.
B. S. degree - Fort Valley State College, 1956.

Experience -

Elementary Teacher, Lovie Lyles Elementary School, Cedartown, Georgia

Field of Concentration -

Elementary Education

Personal Information -

Married; mother of three sons; Baptist, member of Cedar Spring Baptist Church, Cedartown, Georgia. Member of GTEA, ATA, NEA, Regal Civic and Federated Club; Polk County Teacher's Association.

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READING — ARITHMETIC — LANGUAGE

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J H W

INSTRUCTIONS TO STUDENTS:

This is a test of your achievement in reading, arithmetic, and language. In taking the first part you will show how many words you know and how well you understand what you read. No one is expected to do the whole test correctly, but you should answer as many items as you can. Work as fast as you can without making mistakes.

DO NOT WRITE OR MARK ON THIS TEST BOOKLET UNLESS TOLD TO DO SO BY THE EXAMINER.

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10th Printing

PUBLISHED BY CALIFORNIA TEST BUREAU — 5916 HOLLYWOOD BOULEVARD — LOS ANGELES 28, CALIFORNIA
BRANCH OFFICES: NEW CUMBERLAND, PA.; MADISON, WIS.; DALLAS, TEXAS

DIRECTIONS: Mark as you are told the number of the word that means the opposite or about the opposite of the first word.

SAMPLE: A. large [1] rich [2] small [3] gone [4] away

Correct Test Booklet Mark: 2 A

Correct Answer Sheet Mark: A 1 **2** 3 4

TEST 1—SECTION A

1. **reduce** [1] diet [2] subtract [3] change [4] increase ____ 1
2. **curve** [1] passage [2] straight [3] relate [4] temper ____ 2
3. **latitude** [1] name [2] exist [3] connective [4] longitude ____ 3
4. **wholesale** [1] discordant [2] retail [3] clever [4] pleasant ____ 4
5. **minimum** [1] maximum [2] small [3] separate [4] stanza ____ 5
6. **purchase** [1] spoke [2] sale [3] market [4] cloud ____ 6
7. **surface** [1] interior [2] lodge [3] distant [4] action ____ 7
8. **simplify** [1] divide [2] reduce [3] complicate [4] sanction ____ 8
9. **measure** [1] estimate [2] length [3] proceed [4] succeed ____ 9
10. **concave** [1] flaw [2] caramel [3] discretion [4] convex ____ 10
11. **annex** [1] separate [2] casket [3] balloon [4] adult ____ 11
12. **irregular** [1] ashore [2] hymn [3] systematic [4] countenance ____ 12
13. **cancel** [1] retreat [2] record [3] edge [4] zero ____ 13
14. **coincide** [1] enter [2] ignore [3] diverge [4] proclaim ____ 14
15. **assessment** [1] reduction [2] efface [3] dividend [4] loom ____ 15

GO RIGHT ON TO THE NEXT SECTION

Test 1 — Sec. A Score (number right) .....

TEST 1—SECTION B

16. **solid** [1] old [2] fluid [3] wise [4] square ____ 16
17. **external** [1] element [2] sterile [3] accidental [4] internal ____ 17
18. **root** [1] stem [2] food [3] ground [4] green ____ 18
19. **increase** [1] ascend [2] refer [3] reduce [4] produce ____ 19
20. **muscular** [1] modish [2] brine [3] punctual [4] weak ____ 20
21. **positive** [1] external [2] rafter [3] negative [4] separate ____ 21
22. **brittle** [1] unsocial [2] flexible [3] homely [4] profound ____ 22
23. **constant** [1] attack [2] variable [3] grade [4] stuff ____ 23
24. **partial** [1] complicate [2] preserve [3] decrease [4] complete ____ 24
25. **diverge** [1] shorten [2] converge [3] stabilize [4] permit ____ 25
26. **confine** [1] charge [2] hold [3] free [4] slight ____ 26
27. **repel** [1] attract [2] poisonous [3] motto [4] staple ____ 27
28. **discard** [1] dedicate [2] consume [3] obtain [4] obligate ____ 28
29. **transparent** [1] shawl [2] studied [3] inclination [4] opaque ____ 29
30. **extract** [1] inject [2] pollute [3] retract [4] interrupt ____ 30

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Test 1 — Sec. B Score (number right) .....

DIRECTIONS: Mark as you have been told the number of the word that means the opposite or about the opposite of the first word.

SAMPLE: B. large [1] rich [2] small [3] gone [4] away

Correct Test Booklet Mark: 2 B

Correct Answer Sheet Mark: B 1 2 3 4

TEST 1—SECTION C

31. protect [1] join [2] attack [3] save [4] stand ____31

32. advance [1] retreat [2] raise [3] combat [4] carry ____32

33. produce [1] principal [2] director [3] destroy [4] record ____33

34. majority [1] minority [2] equity [3] beggar [4] forge ____34

35. progress [1] slide [2] halt [3] jump [4] throw ____35

36. liberty [1] glory [2] captivity [3] manufacture [4] standard ____36

37. immigrate [1] sharpen [2] change [3] smooth [4] emigrate ____37

38. charitable [1] moral [2] strange [3] attentive [4] selfish ____38

39. dissolve [1] organize [2] county [3] scorn [4] bought ____39

40. abolish [1] repel [2] establish [3] purify [4] defeat ____40

41. frigid [1] strong [2] flat [3] stiff [4] torrid ____41

42. worship [1] proclaim [2] territory [3] draft [4] scoff ____42

43. prohibition [1] minion [2] reduction [3] toleration [4] phosphorus ____43

44. information [1] union [2] exemption [3] ignorance [4] courageous ____44

45. servitude [1] independence [2] hobby [3] displeasure [4] commotion ____45

GO RIGHT ON TO THE NEXT SECTION

Test 1 — Sec. C Score (number right) .....

TEST 1—SECTION D

46. definite [1] indefinite [2] gobble [3] indulge [4] escort ____46

47. unusual [1] assure [2] meadow [3] common [4] drown ____47

48. comedy [1] card [2] tragedy [3] river [4] join ____48

49. statement [1] praise [2] parrot [3] shine [4] question ____49

50. stupid [1] final [2] effect [3] witty [4] origin ____50

51. abbreviate [1] fasten [2] hasten [3] burn [4] elongate ____51

52. masculine [1] feminine [2] peasant [3] man [4] length ____52

53. introduction [1] conclusion [2] whole [3] middle [4] height ____53

54. shrill [1] ashen [2] faint [3] aria [4] naive ____54

55. criticism [1] infest [2] coupling [3] feud [4] commendation ____55

56. sacrifice [1] create [2] negative [3] vocal [4] decline ____56

57. sanction [1] allow [2] decide [3] restrain [4] abject ____57

58. subtle [1] strange [2] obvious [3] old [4] sweet ____58

59. distinct [1] frigid [2] definite [3] obscure [4] identified ____59

60. happiness [1] jollity [2] height [3] immensity [4] pathos ____60

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Test 1 — Sec. D Score (number right) .....

TEST 2—SECTION E

DIRECTIONS: Read the following directions. Mark as you are told the number or letter of each correct answer.

61. Read these letters of the alphabet:

o p q r s t u v w x y z

Select the letter of the alphabet which appears three letters before **w.** Mark the number which shows the correct letter.

1 **t**
2 **u**
3 **r**
4 **y**

3 61

62. Read the following names:

Mary Louis Roger Elizabeth

Mark the number which shows the first letters of the boys' names.

1 **ML**
2 **RE**
3 **LR** ✓
4 **ME**

1 62

63. Nouns ending in **y,** when the **y** is preceded by a vowel, form the plural regularly by adding **s,** such as **monkey, monkeys.** Mark the number of the word which indicates the correct plural of the noun **donkey.**

1 **donkeys**
2 **donkey**
3 **donkies**
4 **donkey's**

1 63

64. Read these numbers:

5 1 0 6 7 4 5 9 8 0

Mark the letter of the third number after 6.

a **1**
b **5**
c **7**
d **9**

b 64

65. Latitude is the measure of distance north or south from the equator. Mark the letter of the following ship's reading which indicates latitude.

a **8° 2′ 20″ W**
b **2° 48′ 10″ N**
c **10° 19′ 30″ E**

C 65

66. **American** is the proper adjective derived from the proper noun **America.** Mark the number of the word which is the proper adjective of the proper noun **Arabia.**

1 **Arabia's**
2 **Arabia**
3 **Araban**
4 **Arabian**

4 66

67. The suffix **al** added to a noun is used to form some adjectives, such as **accident, accidental.** Mark the number of the adjective correctly formed from the noun **monument.**

1 **monument**
2 **monumentally**
3 **monuments**
4 **monumental**

4 67

GO RIGHT ON TO THE NEXT PAGE

68. Four words are listed below. Select the one word that would be listed last in a dictionary. Mark the number of the correct word.

1 reliance
2 religious
3 relinquish
4 reliable ____68

69. The stem word is that part of the word which is present in all variations of the word, such as the stem word **neat** in **neater** and **neatest.** Mark the number of the word which is the stem in the following words.

1 faction
2 fact
3 factor
4 facts ____69

✓ **Look at the following recipe and find the answers to questions 70 and 71.**

2 cups flour
$\frac{1}{2}$ cup shortening
1 teaspoon salt
$\frac{3}{4}$ cup milk
2 teaspoons baking powder

Take the flour, salt, and baking powder and sift together; mix in the shortening thoroughly; add the milk; roll the dough out about one-half inch thick and cut with a biscuit cutter. Bake in a hot oven about twelve minutes.

70. In the recipe you have just read, select the process that was used to cook the biscuits. Mark the number of the correct word listed below.

1 boil
2 mix
3 roast
4 bake ____70

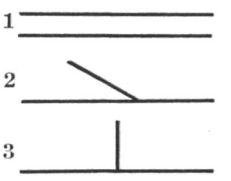
71. Mark the number of the item which is the fourth ingredient to be used in mixing the above recipe.

1 milk
2 shortening
3 salt
4 baking powder ____71

72. The area of a triangle is found by multiplying $\frac{1}{2}$ the base by the altitude. Mark the letter of the number of square feet in a triangle whose base is 4 feet and whose altitude is 3 feet.

a 6
b 12
c 4
d 2 ____72

73. Two lines drawn so that they form right angles are said to be perpendicular to each other. Two lines drawn so they cannot meet are said to be parallel lines. Diagonal lines are lines drawn at any angle except right angles to each other. Determine which one of the following pairs of lines is perpendicular and mark its number.



____73

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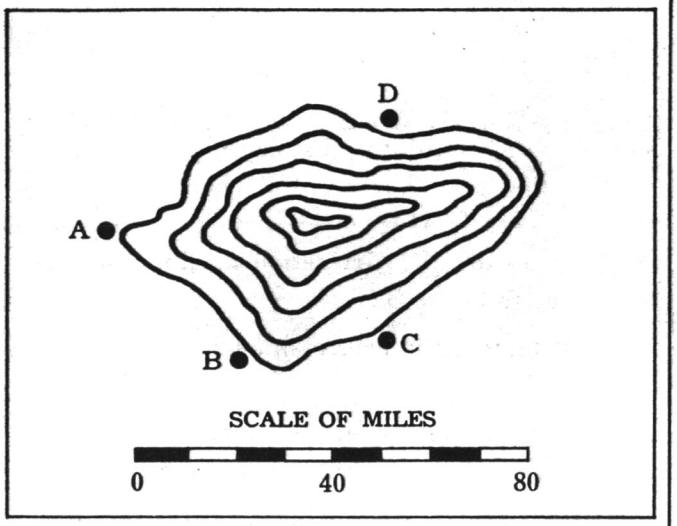


74. The scale of miles shown in the above drawing is forty miles to one inch. Determine the distance from point A to C. Mark the number which shows the correct mileage below.

[1] **twenty miles**
[2] **forty miles**
[3] **eighty miles**
[4] **sixty miles**

____74

75. To find the length of the diagonal line in a rectangle, add the square of the base to the square of the altitude and then extract the square root of this sum. Mark the letter which indicates the length in inches of the diagonal of a rectangle whose base is 8 inches and whose altitude is 6 inches. (Eight squared is 64, 6 squared is 36, and 10 squared is 100.)

[a] **6**
[b] **8**
[c] **10**
[d] **36**

____75

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Test 2 — Sec. E Score
(number right).....

TEST 2—SECTION F

DIRECTIONS: Mark as you have been told the number or letter of each correct answer.

76. The introduction is found in what part of a book?

[1] **beginning**
[2] **middle**
[3] **end** ____76

77. In what part of a book would the author's name appear?

[1] **glossary**
[2] **title page**
[3] **index**
[4] **appendix** ____77

78. A preface is found in what part of a book?

[1] **before the table of contents**
[2] **immediately after the table of contents**
[3] **in the first chapter**
[4] **in the summary** ____78

79. Mark the number of the following article or section in a newspaper which is presented primarily to state an opinion.

[1] **the weather chart**
[2] **the lead news story**
[3] **the editorial**
[4] **the stock market report** ____79

80. The guide words **portray** and **possible** appear at the top of the page in one dictionary. Mark the number of the word that would *not* be found on this page.

[1] **portrait**
[2] **positive**
[3] **position**
[4] **possessive** ____80

✓ **Look at this partial index and find the answers to questions 81, 82, and 83.**

INDEX

Egypt: agriculture, 261; climate, 254; education, 291; defense, 302; financial management of, 314; government of, 347; industries of, 284; irrigation in, 258; problems of trade in, 321.

Egyptian architecture, important periods of, 380.

Egyptian language: classical dialects, 393; consonants in, 392; pictographs, 390.

Egyptian temples: plans of, 401; relation to religious beliefs, 413; rites conducted, 415.

Egyptian tombs, 422.

81. Mark the letter of the page on which information concerning rites conducted in connection with Egyptian temples will be found.

[a] **401**
[b] **413**
[c] **415**
[d] **422** ____81

82. Mark the letter of the page on which information concerning the government of Egypt will be found.

[a] **291**
[b] **302**
[c] **321**
[d] **347** ____82

83. Information concerning the value of the Nile River in Egypt will be found on what page? Mark the letter of the page.

[a] **254**
[b] **258**
[c] **268**
[d] **284** ____83

GO RIGHT ON TO THE NEXT PAGE

✓ **Look at the following Table of Contents and answer questions 84, 85, and 86.**

TABLE OF CONTENTS

84. Mark the letter of the page on which "Preparation for the Market" begins.

[a] **6**
[b] **35**
[c] **57**
[d] **19** ____84

85. Mark the letter of the chapter in which the material on page 59 will be found.

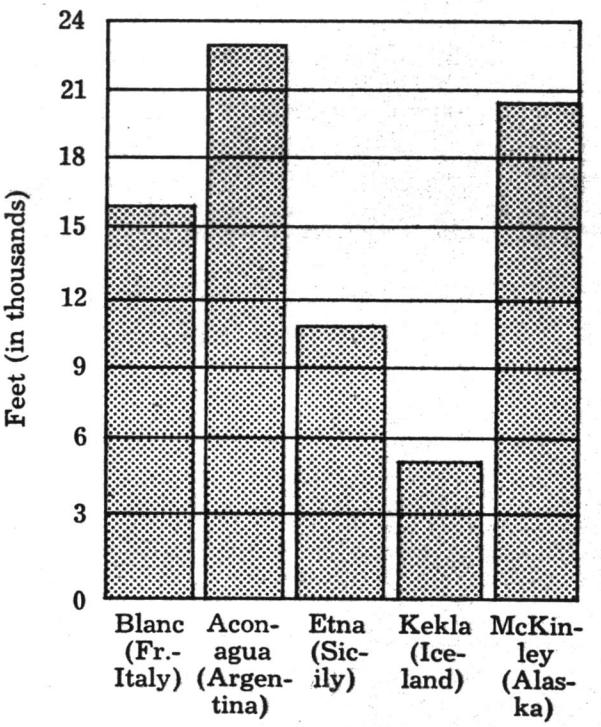
[a] **Coffee Ports**
[b] **Preparation for the Market**
[c] **Growth of Coffee**
[d] **Coffee Plantations** ____85

86. In which chapter will the best account concerning the supply of coffee from South America be found?

[a] **Chapter 1**
[b] **Chapter 3**
[c] **Chapter 4**
[d] **Chapter 6** ____86

✓ **Look at the graph at the top of the next column and indicate the correct answers to questions 87 through 90.**

ALTITUDE IN FEET OF FIVE MOUNTAINS



87. In which country is the lowest of the five peaks located?

[1] **Argentina**
[2] **Sicily**
[3] **Iceland**
[4] **Alaska** ____87

88. Mt. Etna is lower than Mt. Blanc but it is higher than

[1] **Mt. McKinley.**
[2] **Mt. Kekla.**
[3] **Mt. Aconagua.**
[4] **the others.** ____88

89. The elevation of Mt. McKinley is closest to

[a] **20,000 ft.**
[b] **20 ft.**
[c] **5000 ft.**
[d] **16,000 ft.** ____89

90. The combined height of the three highest peaks is approximately

[a] **49,000 ft.**
[b] **53,000 ft.**
[c] **63,000 ft.**
[d] **59,000 ft.** ____90

GO RIGHT ON TO THE NEXT PAGE

✓ **Look at these classification numbers selected from the Dewey Decimal System, and find the answers to questions 91 and 92.**

608 Inventions and Inventors
629 Aviation
930 World History
973 United States History

91. Information concerning the Santa Fe Trail to California will be found in which classification? Mark the correct letter.

a **608**
b **973**
c **930**
d **629** ____91

92. A nonfiction book concerning Eli Whitney will be found in which classification? Mark the correct letter.

a **973**
b **930**
c **629**
d **608** ____92

✓ **Decide which are the TWO best topics to look up in an encyclopedia or reference book for information on the following subjects. Mark the numbers of these two topics.**

SAMPLE C: Skating in Holland

1 **Skating**
2 **Wrestling**
3 **Baseball**
4 **Football**
5 **Recreation in Holland**

Answers to Sample C:

Correct Test Booklet Mark	Correct Answer Sheet Mark
1-5 C	C: 1-2, 1-3, 1-4, 1-5, 2-3, 2-4, 2-5, 3-4, 3-5, 4-5

93. Cotton Growing in Louisiana

1 **Spinning**
2 **Weaving**
3 **Cotton**
4 **Louisiana**
5 **The Cotton Gin** ____93

94. Cattle Raising in Texas

1 **Texas**
2 **Animals**
3 **Cattle**
4 **Farming**
5 **Meat** ____94

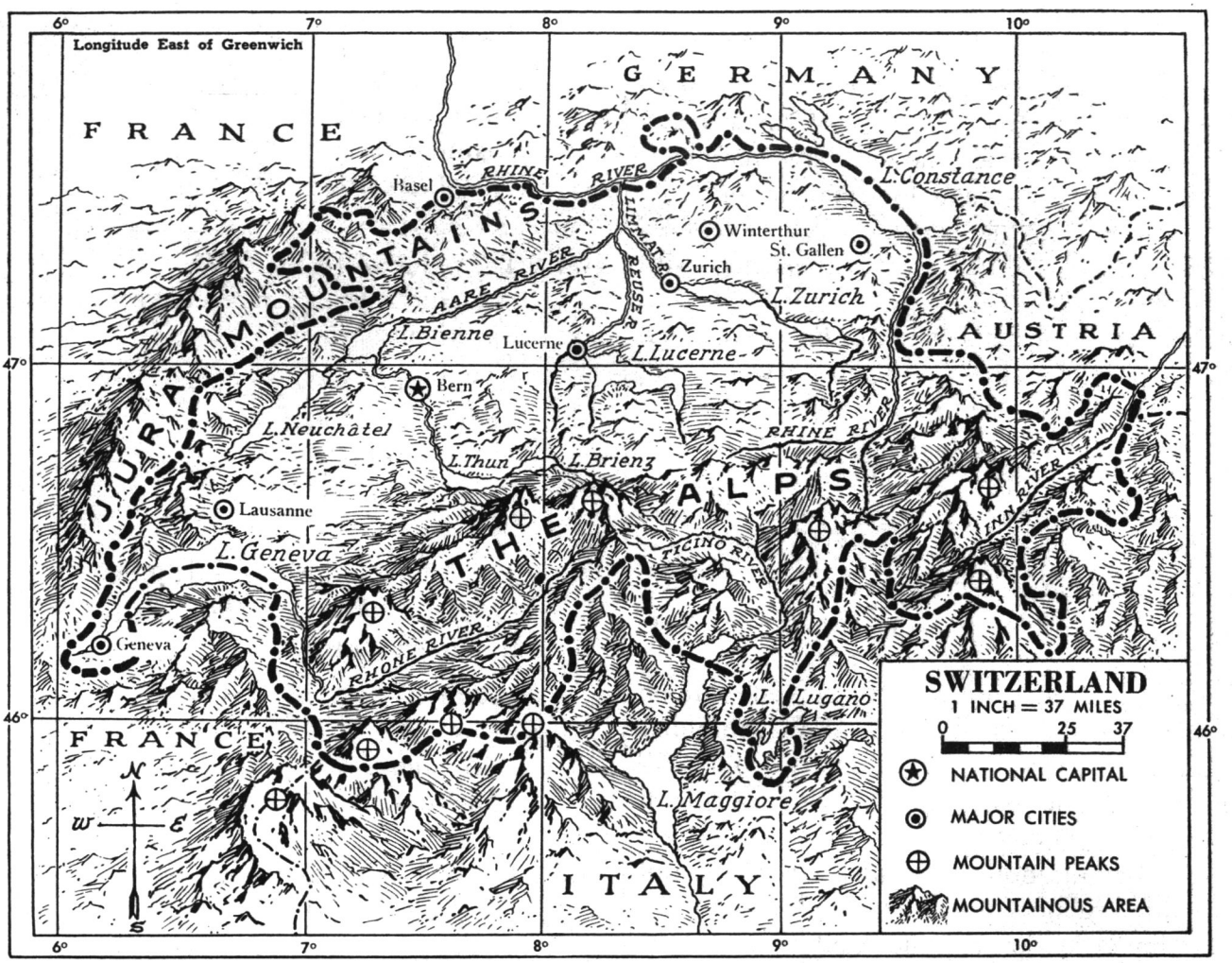
95. The Football Game in America

1 **Schools**
2 **Leagues**
3 **Football**
4 **Games**
5 **America** ____95

96. Destructive Insects in the Cotton Industry

1 **Agriculture**
2 **Industry**
3 **Cotton**
4 **Destruction**
5 **Pests** ____96

GO RIGHT ON TO THE NEXT PAGE



✓ **Look at the map and indicate the correct answers to questions 97 through 101.**

97. One of the following rivers flows through Lake Constance. Which one is it?

1 **Rhine**
2 **Aare**
3 **Rhone**
4 **Limmat** ____97

98. The west end of Lake Constance is located near what degree of longitude?

a **9° E**
b **10° E**
c **47° E**
d **48° E** ____98

99. Which of the following regions is *not* to be found in Switzerland?

1 **central plateau**
2 **coastal plain**
3 **mountain range**
4 **lake region** ____99

100. One of the rivers draining the central plateau is the

1 **Rhone.**
2 **Inn.**
3 **Ticino.**
4 **Aare.** ____100

101. The Rhine and the Rhone Rivers have their sources in one of the following areas. Mark the number of the correct area.

1 **Lake Constance**
2 **Lake Geneva**
3 **Jura Mountains**
4 **The Alps** ____101

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Test 2 — Sec. F Score (number right)_____

TEST 2—SECTION G

✓ **Read this story:**

To catch fish, men were required to learn the use of ships and the ways of the sea. All countries that border the sea have merchant ships, and naval vessels for their national defense. Many of the crew members of these ships gained training and experience with fishing fleets.

Not all fish are marketed to be eaten fresh. Some kinds are canned, some dried and salted, and some are pickled. The value of the fish canned in the United States and Alaska in one recent year was $339,000,000. Of this sum Alaska, Washington, Oregon, and California are credited with over $139,000,000. The fish canned on the Pacific Coast are mostly salmon, sardines, and tuna fish or albacore. Salmon are packed in cans of varying weight, but the output of canned salmon alone (largely from the state of Washington) in a recent year was equal to nearly 5,525,000 cases of 48 one-pound cans, having a value of about $103,000,000.

The fishing industry furnishes a number of valuable products other than food. Among the more important are fish meal, oil, amino acids, pearls, glue, fertilizer, and leather. During the same year the value of these by-products was more than $115,000,000.

For years the United States exported only small quantities of fish because our cost of production was greater than that of European countries. However, during and after World War II, the value of exports increased and they exceeded $34,000,000 in a recent year. Canned salmon and sardines make up a very large part of our fish exports.

✓ **Mark as you have been told the letter or number of each correct answer. You may look back to find the answers.**

102. Besides providing food, fish furnish

[a] **perfume.**
[b] **oils.**
[c] **metals.**
[d] **nothing.** ____102

103. By-products of the fishing industry means

[1] **dried fish.**
[2] **pickled fish.**
[3] **canned fish.**
[4] **products other than food.** ____103

104. The value of fish canned in the U. S. and Alaska in a recent year was about

[1] **$100,000,000.**
[2] **$140,000,000.**
[3] **$340,000,000.**
[4] **$34,000,000.** ____104

105. The fishing industry contributes to national defense by helping to train men for the

[1] **Army.**
[2] **Navy.**
[3] **Air Force.**
[4] **Marines.** ____105

106. One fish not usually canned on the Pacific Coast is

[1] **albacore.**
[2] **tuna.**
[3] **the sardine.**
[4] **haddock.** ____106

107. Salmon is packed in cans weighing

[1] **different amounts.**
[2] **48 pounds.**
[3] **one-half pound.**
[4] **one pound.** ____107

108. Compared with the value of all other fish canned on the West Coast, salmon ranks

[1] **low.**
[2] **average.**
[3] **first.**
[4] **second.** ____108

GO RIGHT ON TO THE NEXT PAGE

109. Compared with the wages of fishermen in the United States, the wages of European fishermen have been

[1] higher.
[2] about the same.
[3] lower.
[4] extravagant. ____109

✓ **Read this story:**

Cotton consists of the fibers attached to the seeds of the cotton plant. After the cotton is picked it is separated from the seeds in a cotton gin and then pressed into bales. Fibers are twisted into thread, and the thread or cotton yarn is then used for making cloth.

Cotton has been made into cloth for thousands of years. Indeed, no one knows when or where it was first used. The plant was growing in America at the time of the voyages of Columbus, but it was known and used in Asia and Africa thousands of years earlier. It was probably first grown and woven into cloth in India.

Records for one year show that the number of bales of cotton produced in different states of the United States was as follows:

States	Number of Bales	Per Cent
Texas	4,317,000	26.2
Mississippi	2,129,000	12.9
California	1,768,000	10.8
Arkansas	1,548,000	9.4
Alabama	963,000	5.8
Georgia	752,000	4.6
Others	4,988,000	30.3
Total	16,465,000	100.0

Cotton provides us with many useful products. The oil obtained from the seed is used in lard compounds, oleomargarine, salad oils, packing fish, making soap, and for many other purposes. The cake which remains after the oil has been pressed from the seed makes excellent cattle feed and fertilizer. While the value of the seed is less than that of the fiber, it nevertheless constitutes a considerable portion of the farmer's income.

✓ **Mark the number or letter of each correct answer. You may look back to find the answers.**

110. Present day uses of the cotton plant have increased the farmer's income because

[1] more parts are salable.
[2] cotton is now in short supply.
[3] of the need for nylon.
[4] fibers are better. ____110

111. One of the most important products of cotton is

[1] wood.
[2] cotton candy.
[3] gun cotton.
[4] cottonseed oil. ____111

112. The annual production of cotton in places listed as "Others" is about what per cent of the total yield?

[a] 6%
[b] 7%
[c] 13%
[d] 30% ____112

113. In one year, about 9 per cent of the cotton was produced in

[1] Arkansas.
[2] Alabama.
[3] Oklahoma.
[4] Georgia. ____113

114. The best title for this story is

[1] "Origin of Cotton."
[2] "By-products of Cotton."
[3] "Records."
[4] "Cotton." ____114

GO RIGHT ON TO THE NEXT PAGE

115. Compared with the money value of cottonseed oil, cotton fiber is worth

[1] **about the same.**
[2] **more.**
[3] **less.**
[4] **very little.** ——115

116. About what per cent of the total number of bales was produced in the two leading states? Mark the letter of the correct number.

[a] **24%**
[b] **36%**
[c] **39%**
[d] **56%** ——116

✓ **Read this story:**

SWEDEN

Sweden, located in northwestern Europe, occupies the eastern and larger part of the Scandinavian Peninsula. It is bordered on the west by Norway, on the northeast by Finland, on the east by the Gulf of Bothnia, on the east and south by the Baltic Sea, and on the southwest by the Kattegat. Sweden extends for about 970 miles from north to south and about 200 miles from east to west, being 300 miles at its widest point. The largest of its numerous islands, which border the coastline, are the two Baltic islands of Gotland and Öland.

Much of Sweden is a tableland sloping from the Kjölen Range on the west to the Baltic. This mountainous western frontier reaches 6,965 feet in its highest peak, the Kebnekaise. The hilly central plateau slopes down to the eastern coast to form a narrow coastal plain along the Gulf of Bothnia. The many rivers, such as the Lule, the Dal, and the Ångerman, run in a southeasterly direction. The southern part of Sweden is generally low and level, rising to a low plateau. In this region, Sweden's largest lakes, Väner and Vätter, several smaller lakes, the Göta and other rivers, and short canal sections form the Göta Canal System. This is the major east-west waterway of Sweden. No less than 8 per cent of the surface of Sweden is water, the immense number of lakes covering almost 15,000 square miles.

The country is divided into three large regions. The southern tip of the peninsula is called Götaland. To the north of Götaland, but still in the southern third of Sweden, is Svealand. The major population centers of Sweden are located in Svealand and Götaland. Norrland occupies the northern two thirds of the country. This section is drained by numerous large rivers which provide hydroelectric power on a large scale and are useful as major logging routes in this beautiful land of forests.

Due to the length of Sweden, the temperature from north to south varies considerably. The North, part of which lies above the Arctic Circle, has long, cold winters and short summers. The climate of southern Sweden is much like that of the state of Maine. The average rainfall for the country is about 20 inches a year. It is heaviest in the South and lightest in the North.

Sweden's sylvan slopes cover 55 per cent of the country's surface. This gives rise to its most important industries, which include lumbering, woodworking, paper, and pulp milling. On the other hand, cultivated land makes up only 9 per cent of the total area, and this is concentrated in the South where the topography encourages farming. However, intensive modern methods have resulted in high yields of crops, even though the growing season is very short due to the long winters. Sweden is world famous for its fine steel products. The enormous hydroelectric power generated in Norrland, as well as in the South, has given an impetus to manufacturing industries. Chief products, in addition to those already mentioned, include textiles, chemicals, munitions, and matches. Sweden's merchant marine carries cargo to all parts of the world. The major cities of Sweden are its capital, Stockholm, its chief seaport, Göteborg, and the southern metropolis, Malmö.

GO RIGHT ON TO THE NEXT PAGE

TEST 2—SECTION G (Continued)

✓ **Mark the letter or number of each correct answer. You may look back to find the answers.**

117. The highest peaks of the Kjölen Range reach a height of about

[a] 7,000 feet above sea level.
[b] 5,000 feet above sea level.
[c] 4,000 feet above sea level.
[d] 2,000 feet above sea level. ____117

118. The rivers of northern Sweden are able to supply power because

[1] they are long.
[2] they are calm.
[3] they are free from ice.
[4] they are swift moving. ____118

119. Sweden's chief source of income is

[1] lumber products.
[2] tourist trade.
[3] agriculture.
[4] mining. ____119

120. The area receiving the greatest rainfall in Sweden is

[1] the North.
[2] the South.
[3] the mountain area.
[4] the Bothnian coastline. ____120

121. A region is best described as a

[1] border.
[2] section.
[3] country.
[4] peninsula. ____121

122. Farmers in Sweden have increased their incomes by

[1] planting oftener.
[2] scientific methods.
[3] working harder.
[4] using greater varieties of crops. ____122

123. Most of Sweden's forests are found in

[1] Norrland.
[2] Götaland.
[3] the lake region.
[4] Svealand. ____123

124. What fraction of Sweden's area is *not* under cultivation?

[1] one fourth
[2] one half
[3] three fourths
[4] nine tenths ____124

125. The word "sylvan" is best described as meaning

[1] gentle.
[2] beautiful.
[3] wooded.
[4] silvery. ____125

✓ **Read this story:**

The Mayflower, in which the Pilgrims came to America, was the typical sailing vessel of its time. It was a three-masted ship, one hundred feet long and twenty-five feet wide. As late as the beginning of the nineteenth century the ships owned by merchants, lumbermen, and fishermen were of the same type as the colonial Mayflower.

In the middle of the nineteenth century, England began using steamships and iron vessels which soon outclassed the colonial-type sailing vessel. In order to maintain a place in the competitive shipping industry, it was necessary for the Americans to build some sort of ship that was faster and easier to handle. This resulted in the American "clipper ship," which for a time was able to compete successfully with the English ships. With the further development of steamships, however, this type of vessel was also hopelessly outclassed.

GO RIGHT ON TO THE NEXT PAGE

In the succeeding years, ships increased in size as well as in luxury. The Mauretania, launched in 1908, was considered a marvel because it weighed nearly 30,700 tons. It held the transatlantic speed record of five and one-half days for twenty years. Each year, however, brought changes in ships, with increased weight and speed, until the Bremen was built and crossed the Atlantic in nine hours less time than the previous record holder. Later the Queen Mary and the Normandie exceeded that record by about 24 hours. The present record is held by the S. S. United States.

✓ **Mark the number or letter of each correct answer. You may look back to find the answers.**

126. In the 19th century the Americans built the

[1] **clipper ships.**
[2] **Mayflower.**
[3] **Bremen.**
[4] **Mauretania.** ____126

127. American shipping was stimulated through competition with

[a] **Italy.**
[b] **Germany.**
[c] **Japan.**
[d] **England.** ____127

128. Commercial vessels superior to the colonial-type sailing ship were first introduced by

[1] **the English.**
[2] **the Pilgrims.**
[3] **fishermen.**
[4] **the Americans.** ____128

129. The Mauretania held the Atlantic crossing record until a new record was established by the

[a] **Queen Mary.**
[b] **Bremen.**
[c] **Normandie.**
[d] **Ile de France.** ____129

130. The "clipper ship" was able to compete successfully because it was

[1] **a steamship.**
[2] **a passenger ship.**
[3] **easier to handle.**
[4] **a sailing vessel.** ____130

131. The Bremen crossed the Atlantic in about

[a] **9 days.**
[b] **7 days.**
[c] **6 days.**
[d] **5 days.** ____131

132. At the beginning of the nineteenth century, the typical commercial ship used was

[a] **a clipper ship.**
[b] **three-masted.**
[c] **an iron ship.**
[d] **a steamship.** ____132

133. The improved size and speed of the modern steamship has had many effects on the world. Which of the following changes has *not* occurred due to this improvement?

[1] **travel time shortened**
[2] **shipping and trade increased**
[3] **fares and rates lowered**
[4] **cargo spoilage increased** ____133

✓ **Read this story:**

THE TELEGRAPH

For eleven years Samuel Morse had been trying to interest someone in his invention of the telegraph and endured great poverty in attempting to carry out his experiments. Finally, in 1843, Congress appropriated $30,000 for this purpose, and Morse was then able to make rapid progress in the development of telegraphy.

GO RIGHT ON TO THE NEXT PAGE

In the spring of 1844, while the political parties were holding their conventions, the telegraph finally became ready for a practical tryout. Morse was able to notify the candidates and the people in Washington of the results of the conventions before they could secure this information by any other means. This aroused much public interest, and there was a general recognition of his remarkable accomplishment. From that time forward, the telegraphic system grew with astounding rapidity and covered the entire world within thirty years.

At first the telegraph was mechanically complicated, but with constant research the instruments themselves became simpler. During recent years, however, due to the complexities of modern life, the system as a whole has become somewhat involved. Every city has an intricate system of telegraph wires below the surface of the streets, and even the continents are connected by cables laid on ocean floors.

The development of the telegraph brought the world closer together by providing a method of bringing ideas and messages from the entire world within the reach of all in a minimum of time. This process has been greatly accelerated by recent improvements in wireless telegraphy, radio, and television.

✓ **Mark the letter or number of each correct answer. You may look back to find the answers.**

134. Bringing the world closer together means

[a] **fewer time zones.**
[b] **maps must be redrawn.**
[c] **better communications.**
[d] **crowded conditions.** ____134

135. An appropriation consists of

[1] **congratulations.**
[2] **money.**
[3] **inventions.**
[4] **patents.** ____135

136. The telegraph became world wide in its coverage

[1] **by 1875.**
[2] **by 1912.**
[3] **after the development of wireless telegraphy.**
[4] **by 1844.** ____136

137. An intricate system is

[1] **complicated.**
[2] **antique.**
[3] **radical.**
[4] **unique.** ____137

138. Telegraph poles in cities

[1] **are similar to telephone poles.**
[2] **are taller than telephone poles.**
[3] **are used for electric power also.**
[4] **don't exist.** ____138

✓ **Read the eight statements below. You are to select the one that would make the best title for each of the four paragraphs of the story. You may look back to find the answers.**

STATEMENTS

1. Wide use of telegraphy
2. Communication of words
3. The inventor's struggle
4. Congress and elections
5. Effects of telegraphy
6. Ideas and messages
7. The practical demonstration
8. Necessity

139. The best title for the first paragraph is statement

1. 2. 3. 4. 5. ____139

140. The best title for the second paragraph is statement

4. 5. 6. 7. 8. ____140

GO RIGHT ON TO THE NEXT PAGE

TEST 2—SECTION G (Continued)

141. The best title for the third paragraph is statement

1. 2. 3. 4. 5. ——141

142. The best title for the fourth paragraph is statement

4. 5. 6. 7. 8. ——142

The following things are mentioned in the story:

Complex system
Mechanically complicated instruments
Wireless telegraphy
Simpler instruments

The order in which these things are mentioned in the story is as follows:

143. Complex system was

1st. 2nd. 3rd. 4th. ——143

144. Mechanically complicated instruments was

1st. 2nd. 3rd. 4th. ——144

145. Wireless telegraphy was

1st. 2nd. 3rd. 4th. ——145

146. Simpler instruments was

1st. 2nd. 3rd. 4th. ——146

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Test 2 — Sec. G Score
(number right).....

Arithmetic

INSTRUCTIONS TO STUDENTS:

This is an arithmetic test. In taking it you will show how well you can think and work problems. No one is expected to do the whole test correctly, but you should answer as many items as you can. Work as fast as you can without making mistakes.

DO NOT WRITE OR MARK ON THIS TEST BOOKLET UNLESS TOLD TO DO SO BY THE EXAMINER.

TEST 3 — SECTION A

Do not write, mark, or figure on this test booklet unless told to do so by the examiner.

DIRECTIONS: Decide how each of the amounts below should be written as a number. Then mark as you are told the letter of each correct answer. For some of the problems none of the answers given may be correct. If you cannot work a problem, or if you think that none of the answers given is correct, mark the letter, e. In taking this test you should finish the first column before going on to the second. Look at the samples to the right and see how they are marked.

Sample A: Twelve

a 10
b 12
c 11
d 2
e None

Correct Answer Sheet Mark

	a	b	c	d	e
A					

Correct Test Booklet Mark: *b* A

Sample B: Twenty

a 22
b 200
c 2
d 21
e None

Correct Answer Sheet Mark

	a	b	c	d	e
B					

Correct Test Booklet Mark: *e* B

1. Nine hundred thirty-five
   a 90,035
   b 9035
   c 935
   d 359
   e None (1)

2. Four thousand ten
   a 40,100
   b 4010
   c 400010
   d 40,010
   e None (2)

3. Forty thousand twenty-three
   a 40,230
   b 42,300
   c 40,023
   d 4230
   e None (3)

4. One million ten thousand eleven
   a 1,001,011
   b 1,000,000,10,000,11
   c 1,010,011
   d 1,100,011
   e None (4)

5. Five-eighths
   a 5 − 8
   b 5 + 8
   c $\frac{8}{5}$
   d .58
   e None (5)

6. Sixty-nine dollars and two cents
   a $69.2¢
   b 69.20
   c $69.02
   d 69.02
   e None (6)

7. Eighty-five per cent
   a .85%
   b 85
   c 85%
   d 85°
   e None (7)

✓ **Read these Roman numerals. Then mark as you have been told the letter of each correct answer.**

8. LX means
   a 40
   b 90
   c 60
   d 110
   e None (8)

9. DC means
   a 200
   b 300
   c 400
   d 600
   e None (9)

10. MI means
    a 501
    b 1001
    c 4010
    d 6100
    e None (10)

✓ **Find the largest number, marked a, b, c, or d, in each of the following rows. Then mark its letter.**

11. a 39 b 235 c 172 d 60 ____ 11

12. a $89\frac{3}{4}$ b $66\frac{1}{2}$ c $106\frac{5}{6}$ d $55\frac{2}{3}$ ____ 12

13. a .025 b .099 c .75 d .015 ____ 13

14. a $\frac{5}{8}$ b $\frac{2}{3}$ c $\frac{8}{9}$ d $\frac{1}{20}$ ____ 14

15. a $\frac{5}{6}$ b $\left(\frac{5}{6}\right)^2$ c $\left(\frac{3}{4}\right)^4$ d $\left(\frac{7}{8}\right)^3$ ____ 15

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Test 3 — Sec. A Score (number right).....

TEST 3 — SECTION B

DIRECTIONS: Mark the letter or number of each correct answer. If you do not know an answer, or if you think that none of the answers given is correct, you should mark the letter, e (items 16-20), or the number, 5 (items 21-25). Finish the first column before going on to the second. Remember to do your figuring on scratch paper if you are marking your answers on an answer sheet.

16. $\sqrt{36}$ is
a 13
b 6
c 2401
d 18
e None
____ (16)

17. 10% of 60 =
a 600
b 70
c 6
d $\frac{1}{6}$
e None
____ (17)

18. A straight angle equals how many degrees?
a 180
b 90
c 45
d 360
e None
____ (18)

19. Which 2 numbers are both factors of 10?
a 9,1
b 2,5
c 5,4
d 8,2
e None
____ (19)

20. What is the greatest common divisor of 8, 16, and 24?
a 3
b 2
c 4
d 8
e None
____ (20)

21. π means
1 add
2 pi
3 radius
4 degree
5 None
____ (21)

22. % means
1 per cent
2 ounce
3 dram
4 reduce
5 None
____ (22)

23. V means
1 vortex
2 volume
3 angle
4 diagonal
5 None
____ (23)

24. $\sqrt{}$ means
1 add
2 ounce
3 interest
4 square root
5 None
____ (24)

25. $\triangle$ means
1 square
2 pyramid
3 rectangle
4 circle
5 None
____ (25)

DIRECTIONS: Some rules and formulas used in measurement, numbered 1, 2, 3, 4, and 5, are given to the right below. Some problems that can be worked with them are given on the left, numbered 26, 27, 28, 29, and 30. Mark the number of the rule or formula on the right which is used to find the answer to each problem on the left.

Problems	Rule or Formula
26. Area of a triangle	____ 26
27. Diameter of a circle	____ 27
28. Area of a parallelogram	____ 28
29. Area of a cube	____ 29
30. Hypotenuse of a right triangle	____ 30

Rules and Formulas Used in Measurement

1. $6s^2$
2. Obtain the square root of the sum of the squares of the two sides.
3. $\frac{C}{\pi}$
4. Multiply base by height.
5. $\frac{1}{2}$ hb

GO RIGHT ON TO THE NEXT PAGE

DIRECTIONS: Work these problems. Then mark as you have been told the letter of each correct answer. For some of the problems none of the answers given may be correct. If you cannot work a problem, or if you think that none of the answers given is correct, you should mark the letter, e. Finish the first column before going on to the second. Remember to do your figuring on scratch paper if you are marking your answers on an answer sheet.

31. Add:
$$\begin{array}{r} 46 \\ -22 \\ \hline 31 \end{array}$$

a 99
b 7
c 55
d 59
e None

(31)

32. Subtract:
$$\begin{array}{r} 89\ b \\ 26\ b \\ \hline \end{array}$$

a 63
b 63b
c $63b^2$
d $-63b$
e None

(32)

33. The minuend is 7; the subtrahend is 13; the difference is

a -6
b 20
c 92
d 6
e None

(33)

34. Multiply: $6(-7)$

a 13
b 42
c -42
d -13
e None

(34)

35. Divide: $\frac{-36}{6}$

a 6
b 42
c 30
d -6
e None

(35)

✓ **Find the value of x in each of these equations. Then mark its letter.**

36. $5x = 45$
$x =$

a 50
b 9
c 5
d 225
e None

(36)

37. $x + 8 = 11$
$x =$

a 19
b 88
c 91
d 8
e None

(37)

38. $x^2 = 25$
$x =$

a $x - 5$
b 25^2
c 5
d 25
e None

(38)

39. $\frac{x}{4} = 4$
$x =$

a 4
b 16
c 1
d $\frac{1}{16}$
e None

(39)

40. If $r = 5$, $s = 6$, and $t = 4$, find the value of x in the following equation:
$x = r + s - t$
$x =$

a 7
b 15
c 10
d 11
e None

(40)

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Test 3 — Sec. B Score
(number right).....

TEST 3 — SECTION C

DIRECTIONS: Work these problems. Then mark the letter of each correct answer. For some of the problems none of the answers given may be correct. If you cannot work a problem, or if you think that none of the answers given is correct, you should mark the letter, e. Remember to do your figuring on scratch paper if you are marking your answers on an answer sheet.

41. In a classroom there were 8 rows of desks with 6 desks in each row. Four desks were removed from the room. How many desks were left?

a 44
b 48
c 42
d 40
e None

(41)

42. Arthur bought a used automobile for $90.00. He paid $20.00 down and is to pay the rest in 10 equal payments. How much will each payment be?

a $5.50
b $9.00
c $7.00
d $2.00
e None

(42)

43. Marie weighs 90 pounds, Alice weighs 70 pounds, and Josephine weighs 110 pounds. What is their average weight in pounds?

a 90
b 100
c 110
d 80
e None

(43)

44. How many square feet are there in a strip of paper which is 4 feet wide and 11 feet long?

a 15
b 7
c 45
d 41
e None

(44)

45. Find the area of a rectangle having a base of 10 inches and an altitude of 12 inches.

a 88 sq. in.
b 102 sq. in.
c 210 sq. in.
d 120 sq. in.
e None

(45)

46. When the scale of a map is "$\frac{1}{2}$ in. = 40 mi.," how many miles apart are 2 cities that are represented as $1\frac{1}{2}$ inches apart?

a 80
b 20
c 110
d 120
e None

(46)

47. Jack sold magazine subscriptions for $2.00 each, receiving a 25% commission on his sales. How much did he receive for each subscription sold?

a $2.25
b 50¢
c $1.75
d 25¢
e None

(47)

GO RIGHT ON TO THE NEXT PAGE

48. A box is 12 inches long, 5 inches wide, and 2 inches deep. How many cubic inches does it contain?

a 60
b 110
c 240
d 120
e None

(48)

49. A man received 6 per cent interest on a loan of $175 for 1 year. How much interest did he receive?

a $181.00
b $10.50
c $29.25
d $169.00
e None

(49)

50. Helen had $12.00 and spent $3.00 of it. What per cent did she spend?

a 30
b 25
c 12
d $33\frac{1}{3}$
e None

(50)

51. Henry missed 6 problems on a test but did 80% of them correctly. How many problems were there in the test?

a 30
b 86
c 74
d 68
e None

(51)

52. Charles, John, and Jerry together received $50.00. Charles received $12.00, John received $24.00, and Jerry received $14.00. What per cent of the $50.00 did John receive?

a 24
b 12
c 48
d 14
e None

(52)

53. Find the area of a triangle having a base of 10 inches and an altitude of 14 inches.

a 140 sq. in.
b 70 sq. in.
c 48 sq. in.
d 74 sq. in.
e None

(53)

54. A house, valued at $8,000, was insured for 75% of its value. The rate of insurance was 25 cents per $100. What was the amount of the premium?

a $15.00
b $115.00
c $150.00
d $20.00
e None

(54)

55. Tom's father bought a dining room set. The list price was $200 and 2 discounts were given: one of 20% and another of 10%. What did the dining room set cost Tom's father?

a $220.00
b $144.00
c $230.00
d $170.00
e None

(55)

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Test 3 — Sec. C Score (number right).....

TEST 4 — SECTION D

DIRECTIONS: Do these problems in addition. Then mark the letter of each correct answer. For some of the problems none of the answers given may be correct. If you cannot work a problem, or if you think that none of the answers given is correct, you should mark the letter, e. Finish each column before going on to the next. Be sure to reduce fractions to lowest terms. Remember to do your figuring on scratch paper if you are marking your answers on an answer sheet.

(56)

$$\begin{array}{r} 264 \\ +323 \\ \hline \end{array}$$

a 541
b 941
c 547
d 581
e None

(56)

(57)

$$\begin{array}{r} 406 \\ +230 \\ \hline \end{array}$$

a 363
b 176
c 636
d 736
e None

(57)

(58)

$$\begin{array}{r} 47 \\ +45 \\ \hline \end{array}$$

a 82
b 92
c 97
d 2
e None

(58)

(59)

$$\begin{array}{r} 27 \\ 38 \\ 51 \\ +74 \\ \hline \end{array}$$

a 190
b 180
c 910
d 91
e None

(59)

(60)

$$\begin{array}{r} 4762 \\ 9374 \\ 1298 \\ +\ 307 \\ \hline \end{array}$$

a 14751
b 14714
c 15471
d 15741
e None

(60)

(61)

$$\begin{array}{r} \$56.35 \\ 3.68 \\ 12.75 \\ +\ 8.15 \\ \hline \end{array}$$

a $60.94
b $79.73
c $80.93
d $69.88
e None

(61)

(62)

$\$30.00 + \$.12 + \$4 + \$1.90 =$

a $32.06
b $36.02
c $36.20
d $33.60
e None

(62)

(63)

$$\begin{array}{r} \frac{1}{4} \\ +\frac{1}{4} \\ \hline \end{array}$$

a 42
b $\frac{1}{16}$
c 0
d $\frac{1}{2}$
e None

(63)

(64)

$$\begin{array}{r} \frac{1}{5} \\ +\frac{1}{10} \\ \hline \end{array}$$

a $\frac{3}{10}$
b $\frac{2}{15}$
c $\frac{1}{3}$
d $\frac{1}{6}$
e None

(64)

(65)

$$\begin{array}{r} 15 \\ +\ 2\frac{2}{3} \\ \hline \end{array}$$

a $13\frac{1}{3}$
b $12\frac{1}{3}$
c $17\frac{2}{3}$
d $18\frac{2}{3}$
e None

(65)

(66)

$$\begin{array}{r} \frac{7}{8} \\ +4\frac{1}{2} \\ \hline \end{array}$$

a $4\frac{3}{8}$
b $5\frac{3}{8}$
c $4\frac{7}{16}$
d $5\frac{5}{16}$
e None

(66)

(67)

$$\begin{array}{r} 12\frac{1}{4} \\ +3\frac{1}{3} \\ \hline \end{array}$$

a $15\frac{7}{12}$
b $15\frac{2}{7}$
c $9\frac{1}{12}$
d $9\frac{1}{4}$
e None

(67)

(68)

$$\begin{array}{r} 3\frac{4}{5} \\ +4\frac{5}{6} \\ \hline \end{array}$$

a $7\frac{1}{30}$
b $7\frac{9}{11}$
c $8\frac{19}{30}$
d $8\frac{9}{30}$
e None

(68)

(69)

$$\begin{array}{r} 53\frac{1}{2} \\ 12\frac{2}{3} \\ +32\frac{3}{4} \\ \hline \end{array}$$

a $97\frac{7}{9}$
b $98\frac{11}{12}$
c $97\frac{23}{12}$
d $97\frac{6}{14}$
e None

(69)

(70)

$5\frac{1}{2} + 3.5 =$

a 9
b $8\frac{3}{5}$
c 2
d $17\frac{1}{4}$
e None

(70)

(71)

$.13\frac{1}{3} + 14.2 =$

a 31.125
b 14.25
c $14\frac{1}{3}$
d 15.625
e None

(71)

(72)

$.04 + .143 + .3706 =$

a 5536
b .5436
c .4536
d .5536
e None

(72)

(73)

$47.6 + 7.32 + .0574 + 6 =$

a 60.9774
b 61.9774
c 61.4779
d 60.7994
e None

(73)

(74)

10% of 30 + 10% of 90 =

a 27
b −6
c 12
d 6
e None

(74)

(75)

$$\begin{array}{r} 7 \text{ yd. } 2 \text{ ft. } 8 \text{ in.} \\ +\ 4 \text{ yd. } 3 \text{ ft. } 7 \text{ in.} \\ \hline \end{array}$$

a 11 yd. 5 in.
b 12 yd. 1 in.
c 3 yd. 3 in.
d 13 yd. 3 in.
e None

(75)

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Test 4 — Sec. D Score
(number right).....

TEST 4 — SECTION E

DIRECTIONS: Do these problems in subtraction. Then mark the letter of each correct answer. For some of the problems none of the answers given may be correct. If you cannot work a problem, or if you think that none of the answers given is correct, you should mark the letter, e. Finish each column before going on to the next. Be sure to reduce fractions to lowest terms. Remember that these are problems in subtraction.

(76)

$$\begin{array}{r} 387 \\ 252 \\ \hline \end{array}$$

a 135
b 639
c 125
d −97524
e None

(76)

(77)

$$\begin{array}{r} 458 \\ 106 \\ \hline \end{array}$$

a 564
b 352
c 302
d 664
e None

(77)

(78)

$$\begin{array}{r} 71 \\ 27 \\ \hline \end{array}$$

a 98
b −1917
c 58
d 54
e None

(78)

(79)

$$\begin{array}{r} 2370 \\ 1890 \\ \hline \end{array}$$

a 460
b 840
c 4800
d 480
e None

(79)

(80)

$$\begin{array}{r} 8507 \\ 2939 \\ \hline \end{array}$$

a 5568
b 9446
c 10436
d 6678
e None

(80)

(81)

$$\begin{array}{r} \$17.25 \\ 1.45 \\ \hline \end{array}$$

a $18.70
b $15.80
c $16.80
d $18.50
e None

(81)

(82)

$\$200 - \$14.25 =$

a $214.25
b $5.75
c $185.75
d $20,014.25
e None

(82)

(83)

$$\begin{array}{r} \frac{1}{3} \\ \frac{1}{3} \\ \hline \end{array}$$

a 0
b $\frac{2}{3}$
c $\frac{1}{9}$
d $-\frac{1}{3}$
e None

(83)

(84)

$$\begin{array}{r} \frac{2}{5} \\ \frac{1}{5} \\ \hline \end{array}$$

a $\frac{3}{5}$
b $\frac{1}{5}$
c $-\frac{1}{5}$
d $\frac{3}{25}$
e None

(84)

(85)

$$\begin{array}{r} \frac{3}{4} \\ \frac{1}{8} \\ \hline \end{array}$$

a $\frac{7}{8}$
b $\frac{5}{8}$
c $-\frac{7}{8}$
d $-\frac{5}{8}$
e None

(85)

(86)

$$\begin{array}{r} \frac{4}{5} \\ \frac{1}{4} \\ \hline \end{array}$$

a $1\frac{1}{20}$
b $\frac{1}{4}$
c $\frac{11}{20}$
d $\frac{3}{5}$
e None

(86)

(87)

$$\begin{array}{r} 7\frac{3}{7} \\ 6 \\ \hline \end{array}$$

a $1\frac{3}{7}$
b $13\frac{3}{7}$
c $-1\frac{3}{7}$
d $-13\frac{3}{7}$
e None

(87)

(88)

$$\begin{array}{r} 9 \\ 5\frac{1}{3} \\ \hline \end{array}$$

a $3\frac{2}{3}$
b $4\frac{2}{3}$
c $14\frac{1}{3}$
d $-45\frac{1}{3}$
e None

(88)

(89)

$$\begin{array}{r} 33\frac{1}{8} \\ 11\frac{3}{8} \\ \hline \end{array}$$

a $21\frac{3}{4}$
b $22\frac{1}{4}$
c $44\frac{1}{2}$
d $-44\frac{1}{2}$
e None

(89)

(90)

$30.6 - 5\frac{1}{2} =$

a 31
b 25.1
c $25.5\frac{1}{2}$
d 36
e None

(90)

(91)

$55\frac{4}{5} - 12.22 =$

a 43.58
b 68.12
c 43.68
d −67.02
e None

(91)

(92)

$86.350 - 24.15 =$

a 83.935
b 62.2
c 110.50
d 88.765
e None

(92)

(93)

$57.09 - 7.0435 =$

a 64.1335
b −26.655
c 50.0465
d 54.1335
e None

(93)

(94)

$\frac{1}{6}$ of $30 - \frac{1}{4}$ of $8 =$

a 38
b 24
c 3
d 7
e None

(94)

(95)

5 da. 6 hr. 20 min.
3 da. 8 hr. 40 min.

a 8 da. 15 hr.
b 8 da. 14 hr.
c 2 da. 2 hr. 20 min.
d 1 da. 21 hr. 40 min.
e None

(95)

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Test 4 — Sec. E Score
(number right).....

TEST 4—SECTION F

DIRECTIONS: Do these problems in multiplication. Then mark the letter of each correct answer. Finish each column before going on to the next. Be sure to reduce fractions to lowest terms.

(96)

$$\begin{array}{r} 233 \\ \times\ \ 5 \\ \hline \end{array}$$

a 1165
b 238
c 1155
d 228
e None

(96)

(97)

$$\begin{array}{r} 400 \\ \times\ \ 3 \\ \hline \end{array}$$

a 403
b 1200
c $133\frac{1}{3}$
d 397
e None

(97)

(98)

$$\begin{array}{r} 609 \\ \times\ \ 6 \\ \hline \end{array}$$

a 3615
b 603
c 3654
d 101.5
e None

(98)

(99)

$$\begin{array}{r} 486 \\ \times\ 32 \\ \hline \end{array}$$

a 518
b 454
c $15\frac{3}{16}$
d 15552
e None

(99)

(100)

$$\begin{array}{r} 736 \\ \times\ 20 \\ \hline \end{array}$$

a 14720
b 756
c 716
d 1472
e None

(100)

(101)

$$\begin{array}{r} 500 \\ \times\ 40 \\ \hline \end{array}$$

a 540
b 20000
c 450
d 12.5
e None

(101)

(102)

$$\begin{array}{r} 5023 \\ \times\ 807 \\ \hline \end{array}$$

a 5830
b 4503651
c 4053561
d 4216
e None

(102)

(103)

$7 \times \frac{1}{5} =$

a $1\frac{2}{5}$
b $7\frac{1}{5}$
c $\frac{5}{7}$
d $7\frac{2}{5}$
e None

(103)

(104)

$\frac{1}{2} \times \frac{1}{2} =$

a $\frac{3}{5}$
b $\frac{1}{4}$
c $\frac{1}{2}$
d $\frac{2}{5}$
e None

(104)

(105)

$\frac{1}{3} \times \frac{3}{5} =$

a 5
b $\frac{1}{3}$
c $\frac{1}{5}$
d $\frac{1}{2}$
e None

(105)

(106)

$\frac{4}{5} \times \frac{5}{8} =$

a $\frac{9}{13}$
b 2
c $\frac{9}{40}$
d $\frac{1}{2}$
e None

(106)

(107)

$6 \times 2\frac{2}{3} =$

a 16
b $8\frac{2}{3}$
c $\frac{1}{16}$
d $16\frac{2}{3}$
e None

(107)

(108)

$6\frac{3}{5} \times \frac{2}{3} =$

a $6\frac{5}{8}$
b $4\frac{2}{5}$
c $5\frac{2}{3}$
d $6\frac{3}{5}$
e None

(108)

(109)

$4\frac{1}{4} \times 6\frac{2}{3} =$

a $24\frac{1}{6}$
b $10\frac{7}{12}$
c $28\frac{1}{3}$
d $27\frac{7}{12}$
e None

(109)

(110)

$$\begin{array}{r} 54\frac{5}{6} \\ \times\ 13 \\ \hline \end{array}$$

a $710\frac{3}{5}$
b $41\frac{5}{6}$
c $4\frac{2}{5}$
d $712\frac{5}{6}$
e None

(110)

(111)

$$\begin{array}{r} 36.25 \\ \times\ \ 5\frac{1}{5} \\ \hline \end{array}$$

a 188.5
b $188\frac{1}{5}$
c $725\frac{1}{5}$
d 18.85
e None

(111)

(112)

$$\begin{array}{r} 482.5 \\ \times\ \ 4 \\ \hline \end{array}$$

a 482.1
b 1930
c 482.9
d 193
e None

(112)

(113)

$$\begin{array}{r} 32.3 \\ \times .035 \\ \hline \end{array}$$

a 11.3
b 3.58
c 1.1305
d 2.88
e None

(113)

(114)

$6 \times 30\%$ of $30 =$

a 54
b 12
c 3
d 24
e None

(114)

(115)

3 yd. 4 ft. 7 in.
$\times 4$

a 12 yd. 11 in.
b 18 yd. 4 in.
c 13 yd. 1 ft. 11 in.
d 18 yd. 1 ft. 4 in.
e None

(115)

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Test 4 — Sec. F Score
(number right).....

TEST 4 — SECTION G

DIRECTIONS: Do these problems in division. Then mark the letter of each correct answer. Finish each column before going on to the next. Be sure to express remainders as fractions and reduce fractions to lowest terms.

(116) $6\overline{)24}$

a 4
b 18
c 30
d 144
e None

(116)

(117) $7\overline{)70}$

a 77
b $\frac{1}{10}$
c 63
d 10
e None

(117)

(118) $4\overline{)248}$

a 244
b 62
c 252
d 992
e None

(118)

(119) $5\overline{)535}$

a 540
b 530
c 135
d 107
e None

(119)

(120) $42\overline{)8610}$

a 8652
b 8568
c 205
d 215
e None

(120)

(121) $400\overline{)8000}$

a 32
b 20
c 84
d 48
e None

(121)

(122) $34\overline{)3262}$

a 3228
b 3296
c $95\frac{16}{17}$
d 9561
e None

(122)

(123) $1 \div \frac{1}{4} =$

a $\frac{1}{4}$
b 4
c $1\frac{1}{4}$
d $4\frac{1}{4}$
e None

(123)

(124) $\frac{1}{5} \div 2 =$

a 2
b $\frac{2}{5}$
c $\frac{1}{10}$
d 5
e None

(124)

(125) $6 \div \frac{4}{5} =$

a $6\frac{4}{5}$
b $7\frac{1}{2}$
c $5\frac{1}{4}$
d $4\frac{4}{5}$
e None

(125)

(126) $\frac{2}{3} \div \frac{2}{3} =$

a $\frac{4}{9}$
b $\frac{1}{10}$
c 1
d $\frac{1}{3}$
e None

(126)

(127) $\frac{3}{4} \div \frac{1}{4} =$

a $\frac{3}{16}$
b 3
c $\frac{1}{2}$
d 2
e None

(127)

(128) $5\frac{3}{4} \div \frac{3}{8} =$

a $15\frac{1}{3}$
b $5\frac{3}{8}$
c $6\frac{1}{4}$
d $2\frac{5}{32}$
e None

(128)

(129) $6\frac{3}{4} \div 2\frac{1}{3} =$

a $3\frac{1}{3}$
b $8\frac{11}{12}$
c $4\frac{1}{12}$
d $2\frac{25}{28}$
e None

(129)

(130) $120 \div 1\frac{1}{5} =$

a $118\frac{4}{5}$
b $121\frac{1}{5}$
c 100
d 10
e None

(130)

(131) $5\overline{)95\frac{3}{4}}$

a $90\frac{3}{4}$
b $100\frac{3}{4}$
c $19\frac{3}{4}$
d $19\frac{3}{20}$
e None

(131)

(132) $.04\overline{)8}$

a 48
b .32
c 200
d 84
e None

(132)

(133) $3\overline{)5.04}$

a 5.07
b 1.68
c 5.34
d 5.01
e None

(133)

(134) $.03\overline{).504}$

a .507
b 1.68
c 16.8
d 168
e None

(134)

(135) $\frac{1}{2}$ of $12 \div \frac{1}{4}$ of $8 =$

a 7
b 3
c 4
d 12
e None

(135)

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Test 4 — Sec. G Score
(number right).....

Language

INSTRUCTIONS TO STUDENTS:

This is a language test. In taking it you will show what you know about capitalization, punctuation, and words and sentences, and how well you can spell. No one is expected to do the whole test correctly, but you should answer as many items as you can. Work as fast as you can without making mistakes.

DO NOT WRITE OR MARK ON THIS TEST BOOKLET UNLESS TOLD TO DO SO BY THE EXAMINER.

TEST 5—SECTION A

DIRECTIONS: In most lines of the story and sentences below, four words have a number above the first letter. If ONE of the letters should be a capital, mark its number. If none of the four letters should be a capital, mark N, which stands for None. Not more than one letter with a number over it should be a capital on any one line.

			Correct Test Booklet Mark	Correct Answer Sheet Mark
SAMPLE:	A.	The ^{1}winner of the ^{2}race ^{3}was ^{4}tom.	4 A	A 1 2 3 4 N
SAMPLE:	B.	He is ^{1}one of ^{2}my ^{3}best ^{4}friends.	N B	B 1 2 3 4 N

In Sample A, the "t" in "tom," which has a 4 above it, should be a capital. Notice how the 4 has been marked. In Sample B, none of the letters with numbers above them should be capitals, so the N has been marked.

STORY

1. ^{1}last ^{2}night, I ^{3}read a ^{4}wonderful old ____ 1
2. ^{1}book ^{2}called *The adventures of Tom Sawyer*, ^{3}by ^{4} ____ 2
3. ^{1}author Samuel ^{2}l. Clemens. This ^{3}man, ^{4}who ____ 3
4. ^{1}is ^{2}better known to all of ^{3}his ^{4}readers ____ 4
5. ^{1}as the ^{2}famous Mark ^{3}twain, lived many ^{4}years ____ 5

in Missouri. For my next birthday, which comes in August, both my mother and my

6. ^{1}rich uncle Jim ^{2}have promised ^{3}to buy ^{4}me ____ 6
7. ^{1}some more ^{2}good ^{3}books written by ^{4}mr. Clemens. ____ 7
8. I ^{1}have promised my ^{2}friend ^{3}bob, who ^{4}lives ____ 8
9. ^{1}close ^{2}to ^{3}brooks Junior High School, ^{4}that ____ 9
10. ^{1}he can ^{2}read ^{3}them when ^{4}i have finished. He ____ 10

knows he will always be welcome to do so.

11. ^{1}my ^{2}teacher thinks ^{3}that ^{4}everyone my ____ 11

GO RIGHT ON TO THE NEXT PAGE

12. age[1] should read[2] good[3] books. Last[4] friday ____12

13. she said, "please[1] get[2] one or two[3] good[4] books ____13

from the new Walnut Street Library.

14. If at all possible[1], you[2] should[3] each[4] do ____14

15. some[1] reading[2] during[3] easter[4] vacation." ____15

16. Bobby[1] comes from denver[2], but[3] he[4] has ____16

17. been to ireland[1] and[2] many[3] other[4] countries. ____17

18. He asked, "do[1] you[2] think[3] it[4] will be all ____18

19. right[1] if my older sister[2] and[3] i[4] see if we ____19

can find some books written in French?"

"Oh," said Mrs. Young, "do you actually

20. read[1] the[2] language[3] that[4] well?" ____20

"No," said Bobby, "but we might see some

21. pictures[1] of the Seine river[2] and[3] places[4] like ____21

22. the Arch of triumph[1]. We[2] saw[3] both of them[4] on ____22

our vacation last June."

SENTENCES

23. Tom[1] brown[2] had visited[3] only[4] twice in ____23

24. alaska[1] before[2] he[3] made it his[4] home. ____24

25. On[1] sunday[2] I started[3] for[4] the Rocky Mountains ____25

26. to[1] visit[2] with aunt[3] Nell and her[4] family. ____26

27. we[1] shall[2] travel[3] east[4] to Bagdad. ____27

28. Tom[1] went[2] out.[3] he[4] then saw Jim ____28

29. coming[1] down[2] the[3] long[4] street. ____29

30. Mother[1] said,[2] "please[3] answer[4] the telephone." ____30

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Test 5 — Sec. A Score (number right)_____

TEST 5—SECTION B

DIRECTIONS: In the letter and story below, most lines have a number, such as $_{31, 32,}$ or $_{33}$. If a punctuation mark is needed where the number is, make a black mark within the pair of dotted lines under the punctuation mark needed. If no punctuation is needed, make a black mark under the N, which stands for None. Show either apostrophes or single quotation marks in the fourth column. Only one answer should be given for each line.

	Correct Test Booklet and Answer Sheet Mark				
	,	?	"	'	N
SAMPLE: C. Mary$_1$ will you come with us?	1				
SAMPLE: D. The bus$_2$ is leaving at ten o'clock.	2				

In Sample C, a comma is needed at 1 after the word "Mary," so a mark has been made under the comma in answer row 1. In Sample D, no punctuation mark is needed at 2, so the N has been marked in answer row 2. If you are using an answer sheet, do not mark on this page.

---

303 South Park Street

Salt Lake City$_{31}$ Utah — 31

June 28, 1956

Dear Grandmother$_{32}$ — 32

It$_{33}$s raining, so I have time to write you a — 33

letter. I was sorry to miss Grandfather$_{34}$s birthday. — 34

The folks decided$_{35}$ we should stay another week. — 35

Did Grandfather get my birthday present on time$_{36}$ — 36

Don$_{37}$ Ann, and Mary helped me select it. — 37

Yes$_{38}$ we do like it here, but we hope — 38

it won$_{39}$t keep on raining. That would spoil the — 39

picnic that our favorite cousin$_{40}$ Harry, planned. — 40

Yesterday he said, "It will probably rain!$_{41}$ — 41

GO RIGHT ON TO THE NEXT PAGE

However$_{42}$ I'm sure it will turn out to be a beautiful day. Don't you think it is best to look on the bright side$_{43}$ In Walt Disney's film, $_{44}$*Pinocchio,* Jiminy Cricket seemed to think that was a good idea, didn't he$_{45}$

The day after we saw the picture, Harry$_{46}$s new music teacher said$_{47}$ "Do you remember when Jiminy Cricket sang that pretty song$_{48}$ 'When You Wish Upon A Star$_{49}$? If you like, I'll teach you to play it on the piano.$_{50}$

Grandmother$_{51}$ do you have Aunt Ida's new address$_{52}$ Mother has lost it, and I want to send her a post card before we leave.

Well$_{53}$ wish us good luck on our trip back.

Love$_{54}$

Barbara$_{55}$

STORY

Returning from a fishing trip$_{56}$ the boys met Tom, who said, "Where have you been$_{57}$"

"We$_{58}$ have been camping down by the river,$_{59}$ answered Ned. "We did some fishing."

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Test 5 — Sec. B Score (number right)_____

TEST 5—SECTION C

DIRECTIONS: Mark the number of the correct or better word in each sentence below.

	Correct Test Booklet Mark	Correct Answer Sheet Mark
SAMPLE: E. She (1 ain't 2 isn't) as tall as Betty.	2 E	E 1 2

In Sample E, the word in the parentheses with the 2 by it, "isn't," is the better word. Notice how the 2 has been marked.

60. He let (1 hisself 2 himself) in the door quietly. ——60

61. Yesterday Ruth (1 says 2 said), "Let's study together." ——61

62. Adverbs (1 do not always 2 always) end in "ly." ——62

63. Everybody (1 has 2 have) fun at the annual festival. ——63

64. I think that Janet writes (1 good 2 well). ——64

65. It was (1 their 2 there) book that was lost. ——65

66. I have (1 chose 2 chosen) the material for my dress. ——66

67. If I had seen him, I (1 could of 2 could have) warned him. ——67

68. It is (1 true 2 false) that pronouns may be singular or plural. ——68

69. We were told that a boy (1 drowned 2 drownded) there. ——69

70. They (1 saw 2 seen) to it that he got the reward. ——70

71. The word "everyone" is (1 a proper noun 2 an indefinite pronoun). ——71

72. They thought the party was for Dave and (1 him 2 he). ——72

73. A pen and a bottle of ink (1 are 2 is) on the table. ——73

74. In the title "Gone with the Wind," the word "Wind" is (1 a noun 2 an adjective). ——74

75. (1 Us 2 We) girls bought our hats at the same store. ——75

76. When the raft (1 sank 2 sunk), we yelled for help. ——76

GO RIGHT ON TO THE NEXT PAGE

TEST 5—SECTION C (Continued)

77. Each of the three boys thought his knife was the (1 better 2 best). ——77

78. In "a good fight," the word "good" is an (1 adverb 2 adjective). ——78

79. Science and math (1 require 2 requires) careful study. ——79

80. The word "blue," when used to describe the color of a dress, is an (1 adverb 2 adjective). ——80

81. In taking a rest, children should (1 lie 2 lay) quietly. ——81

82. There (1 was 2 were) several tickets left. ——82

83. Mrs. Jones gave the sack of candy to her and (1 I 2 me). ——83

84. It is (1 true 2 false) that a word may function as more than one part of speech. ——84

85. "The man (1 who 2 which) sang" is correct English. ——85

86. It has not been touched by (1 she 2 her) or John. ——86

87. He looked as if he had (1 ran 2 run) all the way. ——87

✓ **For each statement below that is a complete sentence, mark YES; for each that is not, mark NO.**

88. The female of the species is supposed to be deadlier than the male. **YES NO** 88

89. After watching carefully for about twenty minutes. **YES NO** 89

90. When we reached a position near the summit. **YES NO** 90

91. The star of the show appeared to take several bows. **YES NO** 91

92. When the problem is one of addition. **YES NO** 92

93. With a faith that leads us to worship the specialist. **YES NO** 93

94. Great caravan routes lead to Damascus. **YES NO** 94

95. To spend a lifetime with a woman as sweet and understanding as your mother, through depression and prosperity, through sickness and health. **YES NO** 95

96. When the pupil does not understand what he is aiming to accomplish in algebra or geometry and is carried along for a time by the demands of the teacher. **YES NO** 96

97. Big and small, lean and fat, they all came. **YES NO** 97

98. While the eyes of the children were wide with fear, and the boy kept on with the ghost story. **YES NO** 98

99. As the huge ship slowly limped into port and the men cheered. **YES NO** 99

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Test 5 — Sec. C Score (number right) .....

TEST 6

DIRECTIONS: Each line in this test contains four spelling words and the word, None. These words are numbered [1], [2], [3], [4], and the None is numbered [5]. In some of the lines, one word is misspelled. In others, no word is misspelled. If there is a misspelled word, mark its number. If no word is misspelled, mark the [5].

						Correct Test Booklet Mark	Correct Answer Sheet Mark
SAMPLE:	F.	[1] now	[2] just	[3] come	[4] ron	[5] None	4 F	F 1 2 3 4 5
SAMPLE:	G.	[1] go	[2] see	[3] do	[4] may	[5] None	5 G	G 1 2 3 4 5

100.	[1] score	[2] rathur	[3] lame	[4] bitter	[5] None	____100
101.	[1] soak	[2] really	[3] escape	[4] often	[5] None	____101
102.	[1] sipply	[2] nature	[3] loose	[4] promise	[5] None	____102
103.	[1] split	[2] elephunt	[3] niece	[4] sixty	[5] None	____103
104.	[1] entire	[2] trout	[3] losing	[4] lisened	[5] None	____104
105.	[1] lantern	[2] faint	[3] motion	[4] arrest	[5] None	____105
106.	[1] moral	[2] sentury	[3] haste	[4] compel	[5] None	____106
107.	[1] tried	[2] woolen	[3] peech	[4] shining	[5] None	____107
108.	[1] safety	[2] dreamed	[3] careless	[4] unles	[5] None	____108
109.	[1] asist	[2] special	[3] weight	[4] paddle	[5] None	____109
110.	[1] funny	[2] takeing	[3] until	[4] alone	[5] None	____110
111.	[1] obedient	[2] register	[3] target	[4] sesion	[5] None	____111
112.	[1] suburb	[2] laboratory	[3] carear	[4] efficiency	[5] None	____112
113.	[1] pantry	[2] wistle	[3] insect	[4] willow	[5] None	____113
114.	[1] mortal	[2] salute	[3] evidance	[4] estate	[5] None	____114
115.	[1] moskuito	[2] singular	[3] hymn	[4] drama	[5] None	____115
116.	[1] tangle	[2] presence	[3] intense	[4] prairy	[5] None	____116
117.	[1] evil	[2] detail	[3] justise	[4] amuse	[5] None	____117
118.	[1] foreign	[2] examenation	[3] accent	[4] diamond	[5] None	____118
119.	[1] horrid	[2] strain	[3] orphan	[4] investegate	[5] None	____119
120.	[1] lease	[2] expand	[3] misterious	[4] cucumber	[5] None	____120
121.	[1] swich	[2] paw	[3] sleeve	[4] noisy	[5] None	____121
122.	[1] disposition	[2] brilliant	[3] magnifecent	[4] accord	[5] None	____122
123.	[1] remit	[2] oxygan	[3] interfere	[4] delicious	[5] None	____123
124.	[1] stubborn	[2] permanent	[3] campain	[4] indifferent	[5] None	____124
125.	[1] silence	[2] vegtable	[3] patient	[4] mere	[5] None	____125
126.	[1] aerial	[2] indevidual	[3] exquisite	[4] convict	[5] None	____126
127.	[1] scaucer	[2] unable	[3] sow	[4] prison	[5] None	____127
128.	[1] amiable	[2] seiges	[3] beneficial	[4] chaperon	[5] None	____128
129.	[1] strenuous	[2] accrued	[3] infamy	[4] melencholy	[5] None	____129

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Test 6 Score (number right) .....

(The quick brown fox just came over to greet the lazy poodle.)

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Grade Placement .....

Diagnostic Analysis of Learning Difficulties*

California Achievement Tests—Junior High Level Battery

1. Reading Vocabulary

A. MATHEMATICS

- 1-15 — Basic vocabulary

B. SCIENCE

- 16-30 — Basic vocabulary

C. SOCIAL SCIENCE

- 31-45 — Basic vocabulary

D. GENERAL

- 46-60 — Basic vocabulary

2. Reading Comprehension

E. FOLLOWING DIRECTIONS

- 61, 62, 64, 68 — Simple choice
- 63, 65, 66, 67, 69, 70, 71, 73 — Definitions and directions
- 72, 75 — Math. directions
- 74 — Map direction

F. REFERENCE SKILLS

- 76, 77, 78, 79 — Parts of book or newspaper
- 80 — Use of dictionary
- 81, 82, 83 — Use of index
- 84, 85, 86 — Table of contents
- 87, 88, 89, 90 — Reading a graph
- 91, 92 — Library classifications
- 93, 94, 95, 96 — Selecting references
- 97, 98, 99, 100, 101 — Reading a map

G. INTERPRETATION OF MATERIAL

- 102, 104, 105, 107, 111, 112, 113, 115, 117, 119, 120, 126, 127, 128, 129, 130 — Directly stated facts
- 103, 106, 108, 109, 110, 116, 118, 121, 122, 123, 124, 125, 131, 132, 133, 134, 135, 136, 137, 138 — Inferences
- 114 — Topic or central idea
- 139, 140, 141, 142 — Organization of topics
- 143, 144, 145, 146 — Sequence of events

3. Arithmetic Reasoning

A. MEANINGS

- 1, 2, 3, 4, 5 — Writing numbers
- 6 — Writing money
- 7 — Writing per cent
- 8, 9, 10 — Roman numerals
- 11 — Whole numbers
- 12, 13, 14 — Fractions and decimals
- 15 — Exponents

B. SYMBOLS, RULES, & EQUATIONS

- 16, 17, 21, 22, 23, 24, 25 — Symbols
- 18, 19, 20 — Vocabulary
- 26, 27, 28, 29, 30 — Rules and formulas
- 31, 32, 33, 34, 35 — Negative numbers
- 36, 37, 38, 39, 40 — Solving equations

C. PROBLEMS

- 41, 42, 43 — Two-step
- 42, 43 — Sharing and averaging
- 44, 45, 48, 53 — Square and cubic measure
- 46 — Ratio
- 49, 50, 51, 52 — Percentage
- 47, 54, 55 — Commission and discount

4. Arithmetic Fundamentals

D. ADDITION

- 56, 57 — Simple combinations
- 58, 59, 60, 61 — Carrying
- 57, 60, 62 — Zeros
- 59, 60, 61 — Column addition
- 61, 62 — Adding money
- 63 — Adding numerators
- 64, 66, 67, 68, 69 — Common denominators
- 65, 66, 67, 68, 69 — Mixed numbers
- 70, 71 — Fractions and decimals
- 72, 73 — Writing decimals
- 74 — Adding percentages
- 75 — Denominate numbers

E. SUBTRACTION

- 76, 77 — Simple combinations
- 78, 79, 80, 81, 82 — Borrowing
- 77, 79, 80 — Zeros
- 81, 82 — Subtracting money
- 83, 84 — Subtracting numerators
- 85, 86 — Common denominators
- 87 — Whole from mixed numbers
- 88, 89 — Borrowing, mixed numbers
- 90, 91 — Fractions and decimals
- 92, 93 — Writing decimals
- 94 — Fractional parts
- 95 — Denominate numbers

F. MULTIPLICATION

- 96, 97, 98, 99, 100, 101, 102 — Tables
- 97, 98, 101 — Zeros in multiplicand
- 100, 101, 102 — Zeros in multiplier
- 99, 100, 101 — Two-place multipliers
- 103, 105, 106 — Cancellation, fractions
- 104 — Mult. num. and denominator
- 107, 108, 109, 110 — Mixed numbers
- 111 — Fractions and decimals
- 112, 113 — Pointing off decimals
- 114 — Per cent of number
- 115 — Denominate numbers

G. DIVISION

- 116, 117, 118, 119, 120, 121, 122 — Tables
- 117, 119, 120, 121 — Zeros in quotient
- 122 — Remainders
- 123, 124, 125, 126, 127, 128, 129, 130 — Inverting divisors
- 128, 129, 130 — Mixed numbers
- 131 — Fractions to decimals
- 132, 133, 134 — Pointing off decimals
- 135 — Fractional parts

5. Mechanics of English

A. CAPITALIZATION

- 2 — Title of book
- 3, 5, 8, 23 — Names of persons
- 6, 7, 26 — Titles of persons
- 9, 16, 17, 21, 22, 24 — Names of places
- 10, 19 — Pronoun "I"
- 1, 11, 27, 28 — First words of sentences
- 12, 25 — Days
- 13, 18, 30 — First words of quotations
- 15 — Special day
- 4, 14, 20, 29 — Over-capitalization

B. PUNCTUATION

- 31, 32, 37, 38, 40, 42, 47, 48, 51, 53, 54, 56 — Commas
- 33, 34, 39, 46 — Apostrophes
- 36, 43, 45, 52, 57 — Question marks
- 41, 50, 59 — Quotation marks
- 49 — Quotation within quot.
- 35, 44, 55, 58 — Over-punctuation

C. WORD USAGE

- 60, 64, 65, 67, 69, 77, 81, 85 — Good usage
- 61, 66, 70, 76, 87 — Tense
- 62, 68, 71, 74, 78, 80, 84 — Parts of speech
- 63, 73, 79, 82 — Number
- 72, 75, 83, 86 — Case
- 88-99 — Recognizing sentences

6. Spelling (100-129) See profile

HANDWRITING See profile

* Consult Part 2 of the manual for uses.

California Achievement Tests

Junior High Level • GRADES 7-8-9 • Form W

DEVISED BY ERNEST W. TIEGS AND WILLIS W. CLARK

Name _____ Last _____ First _____ Middle _____ Sex M-F 18

School _____ City _____ Grade _____ Date of Test _____ Month Day Year

Teacher or Examiner _____ Date of Birth _____ Month Day Year

( ) Student's Age _____

See MANUAL for instructions.

TEST	SECTION	POSSIBLE SCORE	STUDENT'S SCORE
1. READING VOCABULARY	A. Mathematics	15	
	B. Science	15	
	C. Social Science	15	
	D. General	15	
	TOTAL (A+B+C+D)	60	
2. READING COMPREHENSION	E. Following Directions	15	
	F. Reference Skills	26	
	G. Interpretations	45	
	TOTAL (E+F+G)	86	
	READING GRADE PLACEMENT		
3. ARITHMETIC REASONING	A. Meanings	15	
	B. Symbols, Rules, and Equations	25	
	C. Problems	15	
	TOTAL (A+B+C)	55	
4. ARITHMETIC FUNDAMENTALS	D. Addition	20	
	E. Subtraction	20	
	F. Multiplication	20	
	G. Division	20	
	TOTAL (D+E+F+G)	80	
	ARITHMETIC GRADE PLACEMENT		
5. MECHANICS OF ENGLISH	A. Capitalization	30	
	B. Punctuation	29	
	C. Word Usage	40	
	TOTAL (A+B+C)	99	
6. SPELLING	TOTAL SPELLING	30	
	LANGUAGE GRADE PLACEMENT		
	Handwriting		
	BATTERY GRADE PLACEMENT		
	CHRONOLOGICAL AGE GR. PL.		
	ACTUAL GRADE PLACEMENT		
	INTELL. (M.A.) GRADE PLACE.		

Grade Placement

Percentile Rank

2A T198

DIAGNOSTIC PROFILE* (Chart Student's Scores Here)

Grade Placement

4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 †

Grade Placement

31

*For an interpretation of green area within Profile, see discussion on Articulation in Part 4 of Manual.

†Column designed for recording Expected Grade Placements, Anticipated Grade Placements, School or Class Averages, etc. See Part 2 of Manual.

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